Kuwait Institution of Medical Specialization

Anesthesia Residency Training Program

Program Manual
2014
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I. welcome from the program director:

Congratulations and welcome to the anesthesia program, you are among the very few selected and privileged individuals to be trained in the Kuwait board of anesthesia training program.

During your journey through the five-year program, you will find it to be both exciting and demanding experience as you seek excellence in this unique and critical specialty.

The goal of the program is to make you excellent physicians and anesthetists at a level where you can make critical decisions and manage emergencies.

I wish you all the best,

Dr. Abdlrahman Alrefaee
Program director,
Anesthesia Residency Training Program
Kuwait Institution of Medical Specialities
II. Philosophy

The anesthesia residency program of Kuwait Institution of Medical Specialities (KIMS) is dedicated to provide excellence in patients’ care and postgraduate continuous education for our doctors. We hope that all residents will graduate from the program with first class clinical skills and
III. General Objectives of the Anesthesia Residency Training Program

1. To optimize clinical experience for residents
2. To allow residents to achieve maximum exposure to a wide variety of cases
3. To optimize residents learning and teaching experience
4. To optimize meeting specific education needs or interests for specific residents
5. To allow education and clinical care to be balanced appropriately for residents
6. To allow graded levels of resident responsibility (appropriate for level of training)
7. To allow Senior Resident (Slating Residents) the opportunity to again experience with
8. To provide all residents with experience appropriate for completion of training and examinations, and for future practice
**IV. Program: Eligibility**

Residency positions are available mainly to Kuwaiti Citizens as priority but in general few positions will be offered to excellent candidates from other countries. Interviews are held every year to select new residents. Candidates must carry Bachelor of Medicine and Surgery (MBBS) or its equivalent from recognized university. Furthermore, completion of one year of general training.
V. General information

RECOMMENDED TEXT BOOKS

<table>
<thead>
<tr>
<th>BOOK</th>
<th>AUTHOR</th>
<th>PUBLISHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory:</td>
<td>[ Ibrahim Hadi ]</td>
<td>Bader Al-Sultan</td>
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<tr>
<td>Essence of Anaesthesia are</td>
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<td>Pain management for medical Student.</td>
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<tr>
<td>General:</td>
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<tr>
<td>Anesthesia</td>
<td>[ RD Miller]</td>
<td>Churchill-Livingstone</td>
</tr>
<tr>
<td>Clinical Anesthesia*</td>
<td>[ PG Barash et al ]</td>
<td>Churchill-Livingstone</td>
</tr>
<tr>
<td>Anatomy:</td>
<td></td>
<td></td>
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<tr>
<td>Anatomy for the Anesthetist</td>
<td>[ Ellis &amp; Feldman ]</td>
<td>Blackwell</td>
</tr>
<tr>
<td>Physiology:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textbook of Medical physiology</td>
<td>[AC Guyton]</td>
<td>W.B.Saunders</td>
</tr>
<tr>
<td>Review of Medical physiology</td>
<td>[ W.F Ganong]</td>
<td>Lange</td>
</tr>
<tr>
<td>(Both are classic textbooks)</td>
<td></td>
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<tr>
<td>Respiratory physiology:</td>
<td></td>
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<tr>
<td>Respiratory physiology-Essentials</td>
<td>[ JB West ]</td>
<td>Williams and Wilkins</td>
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<tr>
<td>Pulmonary Pathophysiology-Essential</td>
<td>[ JB West ]</td>
<td>Williams and Wilkins</td>
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<td>Applied Respiratory Physiology</td>
<td>[ IF Nunn]</td>
<td>Butterworth</td>
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<td>Medicine:</td>
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<td>Principles &amp; Practice of Medicine</td>
<td>[ Harrison]</td>
<td>McGraw-Hill</td>
</tr>
<tr>
<td>Medicine for Anaesthetists</td>
<td>[ Vickers ]</td>
<td>Blackwel</td>
</tr>
<tr>
<td>Anaesthesia &amp; Co-Existing Disease</td>
<td>[ Stoelting &amp; Dierdorf ]</td>
<td>Churchill-Livingstone</td>
</tr>
</tbody>
</table>

7
Physics & Equipment:
Understanding Anaesthesia Equip. Dorsch&Dorsch Williams and Wilkins

Anesthesia Equipment: Principles and Application, 2nd edition,Ehrenwerth&Eisenkraft

SOURCE TEXT BOOKS FOR THE MCQ'S IN ANESTHESIA

General:
Clinical Anesthesia, Barash latest edition
Anesthesia, Miller, latest edition

Pharmacology:
Pharmacology and Physiology in Anesthetic Practice, Stoelting latest edition

Co-existing Diseases:
Anesthesia & Co-existing Disease, Stoelting latest edition

Equipment:

Cardiac Anesthesia:
Cardiac Anesthesia, 4th edition, Kaplan

OB Anesthesia:
Obstetrical Anesthesia: Principles and Practice, 2nd edition, Chestnut

Pediatric Anesthesia:
A Practice of Anesthesia for Infants and Children, Cote, Ryan & Goudsouzian, latest edition

Regional Anesthesia:
Neural Blockade, Cousins & Bridenbaugh, latest edition
## Guidelines for Resident Slating

<table>
<thead>
<tr>
<th>Level of Training</th>
<th>Case Type</th>
</tr>
</thead>
</table>
| PGY 1             | Low-risk, high volume  
                   | Pre anesthetic clinic 2/month |
| PGY2 - 1 Months   | Mostly low-risk, high volume  
                   | 1-2 moderate-high complexity slates/month  
                   | Pre anesthesia clinic 2/month |
| PGY 2 - 2 months  | Mostly low-risk, high volume  
                   | 2-3 moderate-high complexity slates/month  
                   | Pre Anaesthesia clinic 2/month |
| PGY 2 - 3 months  | ~50% low-risk high volume  
                   | ~50% moderate-high complexity slates/month  
                   | Pre Anaesthesia clinic ~2/month |
| PGY 2 3+          | 3-4 low risk slates/month  
                   | remainder moderate to high complexity graded as per printed guidelines  
                   | ~1 Preanaesthetic clinic/month |
| PGY 3 - 5         | Predominantly moderate to high complexity as per printed guidelines  
                   | Preanesthetic clinic ~1/month |

### Subspecialty Rotations
First choice of cases relevant to subspecialty

This table is intended as a reference for slating residents on site. A more detailed description of the slating priorities is available in the KBA policy.
GUIDELINES FOR RESIDENT O.R. ASSIGNMENT

A. OBJECTIVES

1. To optimize clinical experience for residents
2. To allow residents to achieve maximum exposure to a wide variety of cases
3. To optimize residents learning and teaching experience
4. To optimize meeting specific education needs or interests for specific residents
5. To allow education and clinical care to be balanced appropriately for residents
   To allow graded levels of resident responsibility (appropriate for level of training)
6. To allow Senior Resident (Slating Residents) the opportunity to again experience
7. To provide all residents with experience appropriate for completion of training and examinations, and for future practice
8. To provide an equitable distribution of cases for all residents. This should include an appropriate case mix for each resident on both a week and cumulative basis
9. For PGY-1, and first month PGY-2 and elective Program other program
   a. To allow acquisition of basic experience and skills (including patient assessment, endotracheal intubation, airway maintenance, and basic general
and regional Anaesthesia). To meet this goal, assignments should be primary made to preoperative assessment clinic (2-4 times per rotation), and ORs including general surgery, gynecology, urology, and ENT. Assignment to higher acuity and complexity cases (e.g., vascular, thoracic, neuroanesthesia, and cardiac cases) should be made on a 1-2 times per rotation basis. This will allow exposure to a broader range of clinical practice, and experience for on-call activities.

c. For more senior residents
   a. To allow increasing exposure to more complex and acute cases
   b. To allow increasing independence appropriate
   c. To address individual residents clinical experience gaps
   d. To provide all residents with appropriate experience for future clinical practice

Case Priorities

Specific cases should be prioritized regarding resident involvement. Every effort should be made to ensure resident participation in such cases. The following grading system is recommended:

a. HIGHEST priority

Airway Problems
Unusual disease states (e.g., Malignant Hyperthermia, pheochromocytoma, Myasthenia Gravis etc)

b. Other priority cases (appropriate subspecialty-assigned resident take precedence

Cesarean section with general Anaesthesia
Neonatal cases
Cardiac disease especially congential, and valvular lesions
Vascular cases
Thoracic cases
Neurosurgical cases
2. Clinical Teaching

Goals

a. To take advantage of special knowledge and interests of department faculty
b. To foster resident education by improving and/or maintaining faculty teaching skills through resident supervision
c. To provide opportunities for resident to teach (e.g. medical students, other residents) under staff supervision

C. MECHANISMS OF ASSIGNMENT

General

1. Daily and/or weekly slating assignments shall be done by the Site coordinator
2. Resident assignments should be clearly displayed for all residents and staff to see.
3. Residents assignment should take into account the goals, objectives, and criteria detailed above
4. Specific residents may discuss their wishes, recent assignment history, and perceived gaps in experience, with the site coordinator.
5. The slate should be reviewed daily to consider adjusting assignments, particularly regarding priority cases as listed above. Any slating changes should involve discussion with, the Site Coordinator.
6. If a Resident has a specific concern with slating issue, he/she must speak directly to the Site Coordinator

High-priority Cases

1. These should be assigned to the most senior resident who has had the least exposure to particular type of case.
2. If the most senior resident has adequate experience with the particular type of case, then the next most senior resident shall be assigned to the case, and so on.
3. Substitution of a senior resident for junior resident already assigned to a case of high priority must be considered and must be discussed with the site coordinator. A decision should be made regarding options including junior resident reassignment, or junior resident participation in the high-priority case as an assistant.
3. Graded Responsibilities

Goals
a. To allow residents to develop increasing independence and responsibility appropriate for level of training (see guide re: expected levels of resident function/performance.

b. Regarding PGY-1 and first month PGY-2 and elective from other program (see above Clinical Experience Goals):

i. Early clinical assignments should allow residents with little previous anesthetic experience to be exposed to cases of appropriate duration and complexity to promote teaching and appropriate supervision while allowing basic experience and skill acquisition. Assignment should include pre-op assessment clinics and OR including general surgery, gynecology, urology, and ENT. Invasive monitoring and more complex regional Anaesthesia cases should not be emphasized during the first month.

ii. Assignment to higher activity and complexity cases such as major vascular thoracic cardiac and neuroanesthesia cases may be made on a limited basis (1 to 2 slates per period). This will supplement experience for on-call responsibility and give exposure to a broader range of future clinical practice.

iii. During the second third months of training there should be a gradual increase in a variety and complexity of cases assigned.

4. Specific Needs Or Interests

Anaesthesia Residents

a. Subspecialty rotation Residents
i. Superspecialty rotations with implications for slating include pediatric anesthesia, obstetrical anesthesia, neuroanesthesia, cardiac anesthesia, and regional anesthesia for chronic pain and acute pain should not have slating implications.

ii. Residents on these rotation will participate in their own case assignment as approved by the staff person overseeing subspecialty rotation.

iii. Subspecialty residents who have first priority regarding cases related to the subspecialty of their rotation.

iv. Subspecialty rotation assignments will be made by the site coordinator.
CHIEF RESIDENT JOB DESCRIPTION

The Chief Resident shall function as the primary liaison between the Residents, and the Faculty in particular the Program Director, and Postgraduate Site Coordinators. Responsibilities of the Chief Resident in Anesthesia are mainly administrative.

ADMINISTRATIVE RESPONSIBILITIES

RESIDENT ADVOCATE:

It is important that the Chief Resident serves the Residents' interests. Their main role is being the main representative and spokesperson for all Residents. This includes helping resolve any conflicts which may arise amongst and Staff.

FACULTY LIAISON:

It is the responsibility of the Chief Resident to communicate and/or implement decisions, made by the Program Director, the Postgraduate committee and Site Coordinators, that will have a direct effect on the Residents.

APPOINTMENT AND TERM OF CHIEF RESIDENT

The following guidelines will be used for, criteria and appointment term of the Chief Resident.

A. CRITERIA

1. The chief Resident shall be, preferably, in the final year of the Anaesthesia Training Program. But he/she can in the most senior year so they can act as Chief Resident.

2. Qualities describe in the Chief Resident:

   a) Good interpersonal and communication skills and respect with regard to Faculty, Residents, Support Staff, and other Health Professionals.
   b) Interest in and prior contribution to administrative and committee work.
   c) Demonstrated appropriate moral and ethical standards with respect to:

       • Patients
• Peers and Faculty Staff
• Nursing and Ancillary Staff
d) Demonstrated academic ability.

B. APPOINTMENT

1. The appointment, unless otherwise agreed, shall be one full calendar year
2. The decision regarding the Chief Resident appointment should be done on voting system among resident.

Role of the site coordinator

• At any training site there is a site coordinator
• The site coordinator is chosen by the program director
• He/she is the one responsible for resident slating at the training site
• The site coordination is the one who ensures that the objectives of the rotation are met
• Coordinating the other tutors at site to for a teaching plan for the residents during their rotation.
• The site coordinator is one who is responsible for writing the resident evaluation and discussing it with the resident at the end of the rotation.
• Solving the problems that arise with the residents during the rotation.
• Any major issue that arises with any of the residents the site coordinator will bring it up to the program director.
Expectations Regarding Incremental Achievement of Goals and Objectives Based on Training Level (PGY2-PGY5)

The Core Anesthesia knowledge content objectives to be acquired during the training program are identified in a separate document. The specific knowledge content items identified represent the expected knowledge content that should be acquired during the training program by the anesthesia resident as a Medical Expert/Clinical Decision Maker (can MEDS role). Every attempt will be made to provide a comprehensive well-rounded clinical learning experience. It is expected that the resident may not have clinical exposure to some area’s identified as core knowledge, and that certain areas may not be covered in a structured learning format such as a seminar or rounds. The resident is however responsible for reviewing and acquiring the core knowledge objectives material and may need to utilize self-directed reading and/or request exposure to specific clinical cases if deficiencies are perceived.

The acquisition of the core knowledge material will occur over the five-year training program at various stages and rates with specific areas of knowledge being acquired during the corresponding seminar in the academic day program. The depth of comprehension is expected to increase as residents become more senior. At the completion of the year specified the resident is expected to have achieved the following objectives.

Knowledge objectives:
A PGY2 resident will be expected to be able to demonstrate:
1. A clear understanding of the pharmacology of anesthetic and resuscitative drugs and a developing knowledge of the functional anatomy physiology and pathophysiology as applied to the practice of anesthesia.
2. A clear understanding of the function of anesthesia machines and circuits and checkout procedures.
3. A clear understanding of the differential diagnosis investigation and treatment of common perioperative problems such as common disorders in respiratory and hemodynamic parameters (e.g. hypotension, bradycardia, tachycardia, arrhythmias, high AwP, desaturation, hypercapnia, laryngospasm etc).

During the PGY3 and PGY4 years, residents concentrate on critical care and subspecialty internal medicine rotations, general adult and subspecialty anesthesia rotations, and the scholarly activity rotation, building their knowledge base in these areas. As the distribution of these rotations is determined by resident choices the PGY 3 and 4 years will be considered together.

A PGY 4 anesthesia resident will be expected to be able to demonstrate:
1. Demonstrate an increasing depth of knowledge of all areas of anesthesia.
2. Demonstrate an ability to provide an appropriately focused and comprehensive anesthetic assessment/consultation and propose a reasonable perioperative management plan.
3. Make use of current anesthesia literature (books, web-based sources, etc) to expand their current knowledge base.

A PGY5 resident will be expected to be able to demonstrate:
1. An acquired breadth and depth of knowledge that is close or equivalent to that of a consultant anesthesiologist.
2. Knowledge of all Anesthesia Core Knowledge Content Objectives.
3. Critical appraisal skills and ability to incorporate new information from the medical literature.
4. Willingness and ability to teach and supervise more junior residents, medical students and other health care professionals.

Skills Objectives:

A PGY2 Resident will be expected to be able to (with minimal assistance):
1. Perform a set-up and checkout procedure for an anesthetic machine and anesthetic equipment (including invasive monitoring equipment preparation).
2. Replace an oxygen cylinder on the anesthetic machine.
3. Prepare both routine and resuscitative anesthetic medications.
4. Secure routine and ‘large’ bore intravenous access in the adult patient.
5. Establish invasive arterial line access.
6. Perform a rapid sequence induction utilizing cricoid pressure.
7. Select an appropriate sized LMA and perform LMA placement.
8. Select an appropriate sized ETT and perform oral intubation in the normal adult patient.
9. Prescribe appropriate ventilatory parameters for mechanical ventilation.
10. Assess the patient for appropriate timing of extubation.
11. Know and use appropriate doses of local anesthetic agents.
12. Perform spinal and lumbar epidural anesthesia.
13. Perform a Bier block.
14. Check blood, set up a blood administration system and administer blood products.
15. Conduct intravenous conscious sedation.
16. Demonstrate a growing proficiency and development in regional block techniques.
17. Utilize appropriate monitors and supplemental oxygen for transportation of critically ill adult patients.
18. Prescribe appropriate postoperative oxygen, analgesics and anti-emetic therapy.

**A PGY3 Resident will be expected to be able to:**
In addition to the above technical skills at the completion of the PGY3 year the resident will be expected to (with minimal assistance):

1. Perform and demonstrate understanding of the indications, limitations and potential complications of:
   - nasal intubation
   - lighted stylet intubation.
   - bougie assisted stylet intubation
   - central line access via the internal jugular vein
   - PA catheter placement (including deriving indices of cardiac performance)
   - Upper and lower limb nerve blocks
   - Local infiltration (including safe doses of LA)
2. Setup and administer anesthetic and vasoactive drug infusion administration systems.
3. Demonstrate a clear understanding of the management of the difficult airway.

**A PGY4 Resident will be expected to be able to:**
In addition to the above technical skills at the completion of the PGY4 year the resident will be expected to (with minimal assistance):

1. Perform topical airway anesthesia including:
   - nebulized local anesthesia
   - topical anesthesia / vasoconstriction of the nasal airway
   - Superior laryngeal nerve blocks
   - Transtracheal injection of local anesthesia
2. Perform fibreoptic intubation with appropriate intravenous conscious sedation oxygenation and monitoring.
3. Demonstrate an increasing proficiency in the use of:
   - the Fastrak intubating LMA
- the Bullard laryngoscope
- lung isolation techniques including double lumen ETT placement
- thoracic epidural
- brachial plexus block
- peripheral nerve blocks
- deep and superficial cervical plexus blocks
- subclavian and femoral venous access

**A PGY5 Resident will be expected to be able to:**
In addition to the above technical skills, at the completion of the PGY5 year the resident will be expected to (with minimal assistance):

1. Demonstrate and increasing confidence and proficiency in performing:
   - Upper limb lower limb and sympathetic blocks
   - Interventions appropriate for chronic pain therapy (e.g. Ablative blocks, Facet blocks, trigger point injections, neuraxial steroid injections etc.)
2. Demonstrate confidence and proficiency in assessing the patient with a difficult airway and proposing and carrying out an appropriate plan (including the obstetrical patient requiring general anesthesia for emergency operative delivery).
3. Demonstrate the ability to teach and supervise technical skills for junior residents and medical students.

**Expected Level of Resident Function: Guidelines for Graded Responsibility and Level of Supervision of Residents during Anesthesia Rotations.**

In order to meet the goals of the residency training program, residents will progressively undertake greater individual responsibility for patient care over the course of their training. Expectations of graded responsibility and resident supervision fluctuate from time to time during training and are determined by a number of factors including the resident’s level of training past clinical performance and case exposure complexity of the surgical procedure and the patients co-existing diseases. The assignment of resident responsibilities and level of supervision must be determined in every resident-preceptor assignment taking into account both participants’ viewpoints.

At the PGY1 level, continuous preceptor supervision is expected during the conduct of anesthesia during induction, emergence, and with any clinically significant event or procedural task for all ASA classes of patients undergoing both elective and emergency procedures (i.e.”close supervision”). In contrast at the PGY5 level, continuous preceptor supervision will be expected primarily for the purpose of providing feedback to the resident and for evaluation of the resident’s performance (i.e. “independence”) or for complex surgical procedures, complex co-existing
diseases. A transitional supervision level is expected at the PGY2-4 level, with preceptor supervision reduced from continuous to periodic, and specifically for problematic or complex situations or procedures during induction, maintenance, and emergence (i.e."some supervision") Please see table below for guideline expectations.

Residents may be presented with emergency situations requiring their immediate action. Residents must assess their own level of training and comfort in providing emergency care. Immediate staff assistance should be requested while the resident decides whether they are capable of providing definitive emergency care (e.g., intubation of the trauma patient) or able to provide only temporizing resuscitative measures.

### EXPECTED LEVELS OF RESIDENT FUNCTION FOR DURATION OF TRAINING (4 week periods)

These may be increased or reduced in individual situations, see above)

<table>
<thead>
<tr>
<th>Adult Anesthesia Training (Perioda)</th>
<th>Obstetrical Anesthesia Training (Periods)</th>
<th>Pediatric Anesthesia Training (Periods)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 Close supervision by staff (induction, emergence. And clinically significant events or procedures for all ASA classes)</td>
<td>0-1 Close supervision initially, moving to: epidurals for labour, some supervision to independent management C/S regional to some supervision. C/S general close supervision. 1-2 Epidurals for labour, independent management C/S regional some supervision (later independent). C/S general some supervision (later independent)</td>
<td>0-1 Close supervision by staff</td>
</tr>
<tr>
<td>4-6 Some supervision for ASA 1-2 Close supervision for ASA 3-5</td>
<td>1-2 ASA 1-2 over 2yrs. Some supervision. All others-close supervision</td>
<td>1-2 ASA 1-2 over 2yrs. Some supervision.</td>
</tr>
<tr>
<td>6-12 Independent management for ASA 1-2 Some supervision for ASA 3-5</td>
<td></td>
<td>2-4 ASA 1-2 over 2 years Independent. Others some Supervision Progressing to independent</td>
</tr>
<tr>
<td>12+ Independent management of all patients</td>
<td></td>
<td>4+ All patient independent</td>
</tr>
</tbody>
</table>
Academic half day

- The academic half day is time designated for the residents whereby they get protected teaching in the form of lectures presented either by one of the tutors of the residents themselves.
- The day is supervised by a tutor.
- The purpose of this day is to focus on the important information that would guide the residents learning.
- There is also a time slot designated to practice oral questions.
- An important anesthesia related section is covered during these days and an MCQ at the end of the section is done to evaluate the residents performance during the section.
- The academic day takes place in Ghanima Alghanim building 3rd floor (maternity hospital) on Wednesdays at 11 am.
- Attendance is mandatory for all the residents.
- The academic day is stopped during the summer to resume at the beginning of the academic year.

GENERAL OBJECTIVES OF TRAINING IN ANESTHESIA

This set of objectives is intended as a guide for residents in training in Anaesthesia at Program at KIMS. Residents will prepare for the Examination in Anaesthesia of the Kuwait Board of Anaesthesia and must therefore also satisfy the requirements of the Faculty & KIMS “Training Requirement in Anaesthesia”. These Objectives are not intended to be a checklist or curriculum. They are intended to describable the final achievement of the successful resident. They are, therefore, descriptive rather than prescriptive.

THE SPECIALIST ANAESTHETIST

Anaesthesia includes clinical anesthesia for surgery and obstetrics, with care for mother and newborn, and techniques of resuscitation and critical care. Perioperative and chronic pain management have also become an integral part of anaesthesia practice, as has anaesthesia for a variety of nonsurgical therapeutic and investigative procedur...
Anesthesia Residency Training Program
KIMS

First Year Residency (R1)

The objective of this year is to provide residents with a broad clinical experience in areas relevant to anesthesiology. Clinical rotations include ten periods in general introductory course in anesthesiology in three different general hospitals, one period in intensive care medicine (ICU), and one period in obstetric anesthesia.

Objectives

1. The R1 year will allow the new anesthesia resident to build on knowledge and skills gained in medical school and the clinical internship. It is the overall goal to allow the resident to gain as much possible experience over a broad range of medical practice before beginning specific training in Anesthesia.
2. The resident will gain broader experience and more specific insight into those areas of medical practice which most interact with the practice of anesthesia and the perioperative care of the patient.
3. The resident will improve skills in patient assessment: interview and history taking, physical examination and ordering and interpreting diagnostic tests.
4. The resident will further develop independent clinical judgment and responsibility.
5. The resident will further develop skills in interpersonal relationships with patients, colleagues and other members of the patient care team.
6. The resident will gain further experience in the continuing care of patients and more understanding of the natural history of disease.
7. These goals will be achieved through the required rotations.
8. The resident should become familiar with the basic concepts of anesthesia with special emphasis on patient assessment.

R1 Content

Required Rotations

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Introductory Anesthesia divided over rotation in 3 different general hospitals</td>
<td>6 months</td>
</tr>
<tr>
<td>Intensive Care Medicine</td>
<td>2 month</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>3 month</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>1 month</td>
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</tbody>
</table>
First Clinical Anesthesiology Year

During this year residents do rotations in adult anesthesiology at the major teaching hospitals (Farwaniya, Adan, Mubarak and Amiri Hospitals). Residents learn the fundamental knowledge, clinical skills and techniques required for routine and emergency adult surgery. In addition, there is one mandatory period of chronic pain training.

Objectives

9. The R2 year will allow the anesthesia resident to build clear understanding of the pharmacology of anesthetic and resuscitative drugs and a developing knowledge of the functional anatomy physiology and pathophysiology as applied to the practice of anesthesia.

10. The resident will gain broader experience and clear understanding of the function of anesthesia machines, circuits and checkout procedures.

11. The resident will improve deeper skills with moderate supervision in patient assessment: interview and history taking, physical examination and ordering and interpreting diagnostic tests.

12. The resident will further develop a clear understanding of the differential diagnosis investigation and treatment of common perioperative problems such as common disorders in respiratory and hemodynamic parameters (e.g. hypotension, bradycardia, tachycardia, arrhythmias, high AWP, desaturation, hypercapnia, laryngospasm etc).

13. The resident will gain wider knowledge based clinical practice in intensive care medicine.

R2 Content

Required Rotations

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Anesthesia</td>
<td>8 months</td>
</tr>
<tr>
<td>Intensive Care Medicine</td>
<td>2 months</td>
</tr>
<tr>
<td>Obstetric anesthesia</td>
<td>2 months</td>
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</tbody>
</table>
Third Year (R3) – Internal Medicine Year

During this year residents receive training in internal medicine and intensive care. In cooperation with the Department of Medicine in major teaching hospitals, residents do mandatory training in cardiology, respiratory medicine, endocrinology, and adult & pediatric intensive care. Optional rotations in various medical specialties, or research, are available to complete the training requirements for this year. Normally, this year of training is taken after the first clinical anesthesiology year, but the timing is flexible to permit adjustment to individual needs. At the end of R-3, the resident will be eligible to write the First Part of Kuwait Board of Anesthesia (KBA-Part 1).

Objectives

At the end of R3, the resident will demonstrate proficiency in:

1) Assessment of patients presenting with undifferentiated medical complaints/problems including eliciting a relevant history, performance of the appropriate physical examination and evidence-based use of diagnostic testing.
2) Evidence-based management of common medical illnesses as well as less common but remediable conditions.
3) Effective, integrated management of multiple medical problems in patients with complex illnesses.
4) Performance of common procedures used in diagnosis and management of medical patients including ECG interpretation.
5) Developed evidence-based approaches to the investigation and management strategies of peri-operative patients who have the following problems:
   - Chest pain
   - Dyspnea
   - Cardiovascular disease
   - Atherosclerosis – recognition, primary/secondary prevention
   - Respiratory disease
   - Renal disease
   - Neurological disease
   - Endocrine disorders
   - Hematological disorders
   - Hepatic disease
6) Demonstrated proficiency in the following procedures:
   - EKG interpretation
   - Chest x-ray interpretation
   - Pulmonary function interpretation
7) Have an understanding of the indications, limitations and risks associated with the following procedures:
   - Pulmonary function
   - Exercise EKG - stress test
   - Holter monitors
   - 2D echocardiography/Doppler
   - Myocardial perfusion imaging and radionuclide angiography
   - Cardiac catheterization/angiography
   - Revascularization strategies

**R3 Content**

**Required Rotations**

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Medicine</td>
<td>2 months</td>
</tr>
<tr>
<td>Regional anesthesia</td>
<td>2 month</td>
</tr>
<tr>
<td>Cardiology &amp; CCU</td>
<td>2 months</td>
</tr>
<tr>
<td>ICU/NICU</td>
<td>2 months</td>
</tr>
<tr>
<td>Chronic pain management</td>
<td>2 months</td>
</tr>
<tr>
<td>Obstetric anesthesia</td>
<td>1 month</td>
</tr>
<tr>
<td>Urology/ transplant</td>
<td>1 month</td>
</tr>
</tbody>
</table>
Anesthesia Residency Training Program  
KIMS

Fourth Year Residency (R4)

Fourth Year (PGY-4) – Subspecialty Anesthesiology Training

The objective of this year is to provide residents with variety of mandatory sub-specialty training in pediatric, neurosurgical, cardiothoracic, obstetric, ENT, ophthalmic and regional anesthesia at the Ministry of Health teaching hospitals.

Objectives

At the end of R4 year, the anesthesia resident will be expected to be able to demonstrate:

1. Demonstrate an increasing depth of knowledge of all areas of anesthesia.
2. Demonstrate an ability to provide an appropriately focused and comprehensive anesthetic assessment/consultation and propose a reasonable perioperative management plan.
3. Make use of current anesthesia literature (books, web-based sources, etc) to expand their current knowledge base.

In addition to the above technical skills at the completion of the PGY4 year the resident will be expected to (with minimal assistance):

1. Perform topical airway anesthesia including:
   - Nebulized local anesthesia
   - Topical anesthesia / vasoconstriction of the nasal airway
   - Superior laryngeal nerve blocks
   - Transtracheal injection of local anesthesia

2. Perform fibreoptic intubation with appropriate intravenous conscious sedation oxygenation and monitoring.

3. Demonstrate an increasing proficiency in the use of:
   - Fast-track intubating LMA
   - Bullard laryngoscope
   - Lung isolation techniques including double lumen ETT placement
   - Thoracic epidural
- Brachial plexus block
- Peripheral nerve blocks
- Deep and superficial cervical plexus blocks
- Subclavian and femoral venous access

**R1 Content**

**Required Rotations**

<table>
<thead>
<tr>
<th>Department</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatric Anesthesia</td>
<td>3 months</td>
</tr>
<tr>
<td>Cardiothoracic Anesthesia</td>
<td>2 months</td>
</tr>
<tr>
<td>Intensive care</td>
<td>2 months</td>
</tr>
<tr>
<td>Neuroanesthesia</td>
<td>2 months</td>
</tr>
<tr>
<td>Plastic/Burn unit</td>
<td>1 month</td>
</tr>
<tr>
<td>ENT Anesthesia</td>
<td>1 month</td>
</tr>
<tr>
<td>Ophthalmic Anesthesia</td>
<td>1 month</td>
</tr>
</tbody>
</table>
Final Year Residency (R5)

During the final year, training is tailored to individual learning goals. Residents use this year to broaden their exposure to clinical anesthesiology, through rotations at all major sites, and they are given increasing responsibility for patient care. Certain residents may choose to use some of this year to complete chronic pain rotation. Steps are taken for R-5 residents to prepare for their examinations. After successfully completing Final In-Training Evaluation Report (FITER), the resident will be board eligible to write the final board examination in Anesthesia.

Objectives

R-5 resident will be expected to be able to demonstrate:

1. An acquired breadth and depth of knowledge that is close or equivalent to that of a consultant anesthesiologist.
2. Knowledge of all Anesthesia Core Knowledge Content Objectives.
3. Critical appraisal skills and ability to incorporate new information from the medical literature.
4. Willingness and ability to teach and supervise more junior residents, medical students and other health care professionals.

In addition to the technical skills acquired in previous years, at the completion of the R-5 year the resident will be expected to (with minimal assistance):

1. Demonstrate and increasing confidence and proficiency in performing:
   - Upper limb lower limb and sympathetic blocks
   - Interventions appropriate for chronic pain therapy (e.g. Ablative blocks, Facet blocks, trigger point injections, neuraxial steroid injections etc.)

2. Demonstrate confidence and proficiency in assessing the patient with a difficult airway and proposing and carrying out an appropriate plan (including the obstetrical patient requiring general anesthesia for emergency operative delivery).

3. Demonstrate the ability to teach and supervise technical skills for junior residents and medical students.
**R5 Content**

**Required Rotations**

<table>
<thead>
<tr>
<th>Program</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesia Consolidation</td>
<td>4 months</td>
</tr>
<tr>
<td>Intensive Care Medicine</td>
<td>4 months</td>
</tr>
<tr>
<td>Anesthesia clinic</td>
<td>2 months</td>
</tr>
<tr>
<td>General anesthesia</td>
<td>2 months</td>
</tr>
</tbody>
</table>
ANAESTHESIA ROTATION OBJECTIVES

1- INTRODUCTORY OBJECTIVES
2- AMBULATORY
3- CARDIAC
4- CHRONIC PAIN MANAGEMENT
5- NEUROANAESTHESIA
6- OBSTETRIC ANAESTHESIA
7- PEDIATRIC ANAESTHESIA
8- REGIONAL ANAESTHESIA
9- VASCULAR
10- THORACIC
11- CONSOLIDATION
12- AIRWAY ROTATION
Introductory Anesthesia Rotation Objectives

During the Introductory Anesthesia Rotation, the resident will be expected to develop an understanding of the fundamentals of anesthesia practice, as well as to develop basic skills to support this understanding.

Medical Expert

- The Resident will be able to describe and implement clinical preoperative assessment, including risk assessment, and comprehensive anesthetic planning.
- The Resident will demonstrate an understanding of the physical principles relating to anesthesia equipment, as well as the safety aspects pertaining to this equipment, including equipment checking.
- The Resident will be able to apply their knowledge of the physical principles of monitoring systems to the clinical practice of anesthesia, with particular reference to common monitoring devices – EKG, Pulse Oximetry, Non Invasive and Invasive Blood Pressure Monitoring, Gas Analysis, Temperature Monitoring, Peripheral Nerve Stimulation.
- The Resident will be proficient at airway management, demonstrating competence with mask ventilation, airway insertion, direct laryngoscopy, and the use of lighted stylet and Laryngeal Mask Airway devices (whatever available airway equipment).
- The Resident will be able to describe the basic components of anesthesia (Analgesia, Amnesia, Areflexia, Unconsciousness and Muscle Relaxation / Immobility) and the appropriate clinical application of these modalities.
- The Resident will demonstrate ability to assess, and manage with appropriate intervention, the respiratory and haemodynamic status of the patient during the perioperative period.
- The Resident should be proficient at securing peripheral intravenous access, and be familiar with techniques of arterial and central venous cannulation.

- The resident should be capable of performing spinal anesthesia, and be familiar with epidural techniques, as well as having good comprehension of the equipment, indications, limitations and contraindications for regional anesthesia.

- The Resident will be familiar with the pharmacology of commonly used drugs in the perioperative period, as well as drugs used during
resuscitation, and in the management of patients with common co-
morbidities. They will be aware of common drug interactions.

☐ The Resident will be capable of providing anesthesia for ASA 1 and 2 patients undergoing uncomplicated surgery with minimal supervision.

Communicator
☐ The Resident will be able to effectively communicate with patients and their families for the purpose of eliciting an appropriate history.
☐ The Resident will effectively communicate the risks and benefits of the anesthetic options available for the patient’s surgery for the purpose of informing the patient and including them in the decision making process.
☐ The Resident will demonstrate respect and courtesy to all patients, and be sensitive to the diversity of the population they serve.
☐ The Resident will be able to effectively communicate with all colleagues and members of the team involved in caring for the patient. They will be able to protect the patient’s interest, and be confident to address concerns in an assertive but non-confrontational manner.

Collaborator
☐ The Resident will be a team player, and be able to appropriately consult other physicians for advice and further management of the patient.
☐ The Resident will cooperate with colleagues to ensure patient care and safety.
☐ The Resident will recognize the key interactions between members of the operating room team, and strive to facilitate optimal patient care.

Manager
☐ The Resident will learn by observation, and begin to be able to apply the principles of effective operating list management, through planning and preparation.

Heath Advocate
☐ The Resident will continue to promote the health of their patient, and will develop a responsible attitude towards the utilization of healthcare resources.

Scholar
☐ The Resident will be self directed, and focused on their career learning objectives.
☐ The Resident will seek to apply the principles of evidence-based practice, and continually try to justify clinical decision making processes.
The Resident should make a reasonable effort to prepare by prior reading or enquiry for each day's work. The Resident should attend and participate in the formal teaching opportunities offered within the department, and develop an awareness of research activities within their environment.

Professional

The Resident will demonstrate professional behavior towards senior and junior colleagues, patients and allied healthcare workers. The Resident will demonstrate a mature work ethic, in keeping with the privilege of practicing medicine. The Resident will apply ongoing self-assessment and have insight into their own ability. The Resident will accept advice and constructive feedback from their seniors at times of formal assessment.
Ambulatory Anesthesia Rotation Objectives

The goal of the Ambulatory Anesthesia rotation for trainees is development of an understanding of the common surgical conditions amenable to outpatient surgery. In addition, anesthetic techniques enabling anticipated discharge from hospital in a timely postoperative fashion will be stressed. An understanding of common etiologies of unplanned hospital admission (eg. nausea/vomiting, pain, etc.) and measures to prevent them will be elucidated. The resident will be expected to complete a quality assurance project during their rotation.

Medical Expert/Clinical Decision Maker:

KNOWLEDGE

The resident will be able to

☐ Describe in detail pathophysiologic changes that general anesthesia produces and their effects on outpatient function
☐ Describe in detail the pharmacologic and pharmacodynamic effects of anesthetic agents used in ambulatory patients
☐ Describe the pathophysiologic changes that common medical conditions (eg. hypertension, asthma, coronary artery disease, congestive heart failure, chronic obstructive pulmonary disease, diabetes, etc.) produce and the acceptable limits for patients undergoing ambulatory surgery
☐ Describe the optimum management of the above-mentioned medical conditions in the perioperative period
☐ Describe the appropriate selection of surgical procedures and patients (eg. Length of surgery, likelihood for blood loss, concomitant disease, extremities of age, etc.) for ambulatory surgery
☐ Describe the necessary preoperative assessment, preparation, and premedications (eg. NPO status, aspiration prophylaxis, postoperative nausea/vomiting prophylaxis, anxiolytics, chronic medications) for patients undergoing ambulatory surgery

☐ Describe the elements of quality assurance and describe the conduct of a quality assurance project

SKILLS

The resident will be able to

☐ Perform an appropriate anesthesia history and physical examination in the outpatient setting
☐ Demonstrate the appropriate ordering of laboratory investigations in the ambulatory setting
☐ Rapidly and safely provide general, regional, local anesthesia, sedation or monitored anesthesia care for ambulatory patients
☐ Choose an appropriate selection of muscle relaxants, narcotics, local anesthetics, regional plexus blocks, or central neuraxial blocks
☐ Recognize the normal and abnormal recovery from anesthesia, and readiness
for discharge for ambulatory surgical patients
☐ Describe discharge criteria and patient instructions, and criteria for hospital admission (nausea/vomiting, pain, etc.)
☐ Have a plan for postoperative complications
☐ Critically assess the ambulatory anesthesia literature
☐ Gain some exposure to research in the area of ambulatory anesthesia
☐ Demonstrate their knowledge of quality assurance through completing a quality assurance project during this rotation, and by presenting it at a departmental rounds session

**Communicator:**
The resident will be able to
☐ Obtain and document the relevant medical history and physical examination thoroughly and efficiently
☐ Develop communication skills in ambulatory anesthesia to benefit the patient, the surgeon, and other members of the health care team
☐ Demonstrate the ability to discuss the risks and benefits of the various anesthetic techniques relevant to the patient and procedure

**Collaborator:**
The resident will be able to
☐ Be aware of the role of the contribution of each member of the ambulatory care team to patient care
☐ Work with the surgeons and other members of the health care team to ensure optimal patient assessment and preparation
☐ Ask for help appropriately, recognizing their limitations in knowledge and skills

**Manager:**
The resident will be able to
☐ Consider health care resources when determining the patient’s perioperative management plan
☐ Acknowledge the difficulties and decision-making involved in utilization and allocation of finite health care resources
☐ Demonstrates knowledge of the departmental guidelines for management of patients in the ambulatory setting
☐ Describe the administrative aspects of an ambulatory anesthesia service, including the set-up and staffing of the Preadmission Clinic

**Health Advocate:**
The resident will be able to
☐ Understand the complex emotional effects of the illness on the patient and their family
☐ Provide appropriate education to ensure patients are well informed and well prepared for their procedure and anesthetic
☐ Encourage patients to optimize their health status
**Scholar:**
The resident will be able to
- Teach medical students skills and knowledge for ambulatory anesthesia
- Demonstrate ongoing review of procedures/policies with the goal of detecting areas of potential improvement
- Critically evaluate the medical literature pertaining to ambulatory anesthesia

**Professional:**
The resident will be able to
- Demonstrate integrity and honesty when interacting with patients, families, and other health care professionals
- Be punctual, efficient, and respectful at all times

**Evaluation:**
- There will be continuous daily assessment and feedback to the trainee by the consulting staff
- A mid-rotation evaluation form will be completed by the rotation coordinator and discussed with the trainee
- An end-of-rotation written evaluation will be completed by both the resident and coordinator of the rotation
- The resident evaluation will be discussed with the resident and signed by both the resident and the coordinator
- A short oral examination will take place at the end of the rotation
Cardiac Anesthesia Rotation Objectives

Residents completing the Cardiac subspecialty rotations should achieve competence in the management of routine anesthetic management of Coronary Bypass Graft patients, Valve replacement and/or repair (aortic, mitral), aortic valve procedures. In addition they should gain familiarity with complex cardiac cases involving patients with multiple comorbidities.

Clinical Faculty:
- Cardiac Anesthesiologists
- Cardiac Surgeons

Organization of the Rotation:
There is a One-month rotation as a junior resident, and a one-month rotation as a senior resident.

Resident Rotation -Teaching Techniques:
Teaching will be through direct clinical experience with consultant guidance during clinical workload. In addition, residents will be expected to attend didactic teaching sessions on Thursday mornings focusing on the clinical approach and management of topics related to cardiac surgery.

Clinical Decision Maker/Medical Expert:
Demonstrate knowledge of the basic sciences as applied to the preoperative, intraoperative and postoperative periods of cardiac surgery:
A. Physiology and Anatomy
The resident is expected to:
- Describe the normal coronary anatomy and variants, and normal cardiac physiology and the effects of disease states on the normal physiology
- Describe the anatomy and physiology of cardiac valves, left ventricle, right ventricle, atria, major cardiac vessels, and circulatory system in both normal and diseased states
- Describe the normal conduction pathways of the heart and its clinical significance in disease
- Describe the embryologic circulation, development of the heart and fetal physiology as it applies to adult congenital heart disease.

- Describe the altered respiratory physiology of the immediately postoperative ventilated patient with significant surgical incisions and pain (sternotomy, large abdominal incision)
Describe common physiological changes occurring in the postoperative period and the impact these have on end organ function. (neurologic, renal, cardiac, hepatic, gastro-intestinal)

B. Pharmacology
The resident should know:
- Commonly prescribed medications for cardiac surgical patients, the implications for disease and the impact on anesthetic management
- Commonly used cardiac anesthetics and dosages for fast track cardiac anesthesia
- Heparin, thrombolytics, antiplatelet agents dosages and anesthetic implications
- Protamine for heparin reversal, along with side effects and complications
- Anti-fibrinolytic agents, mechanisms of action and indications
- The use of blood products (PRBC, FFP, platelets, cryoprecipitate) and blood alternatives (albumin, pentastarch) as well as transfusion reactions and complications
- Coagulation drugs currently available (DDAVP, activated factor 7a) their indications, contraindications, dosages and complications
- Commonly used vasodilators, vasoconstrictors, inotropic and lusitropic agents, their indications, dosages, and side effects
- Anti-arrhythmic agents (Procainamide, Amiodarone, Sotalol) for prophylaxis and treatment of post operative atrial fibrillation, SVT and ventricular arrhythmias
- The use of neuromuscular blockage reversal agents in conjunction with anticholinergic drugs, and their complications (neostigmine, edrophonium, glycopyrrolate, atropine)
- The appropriate use of pain medications, non steroidal anti-inflammatory drugs and regional anesthetic techniques in cardiac surgical patients
- Pharmacology of perioperative risk reduction strategies (lipid lowering agents, B-blocker’s, aspirin)

C. Monitoring
The resident will be able to:
- Interpret EKG for ischemia, infarction, arrhythmias and paced rhythms. They will recognize the limitations, and the sensitivity/specificity of EKG as an ischemia monitor
- Demonstrate principals of non-invasive and invasive BP monitoring and its pitfalls

- Acquire skills of arterial and central venous cannulation, peripheral venous cannulation, rewiring central venous access, PA catheterization; interpret CVP and data from PA catheter (PAP, PCWP, Cardiac output) and know its
indications, complications and management

☐ Know basics of introductory TEE, including techniques of probe insertion and several basic views and its implication and application to the critical care patient

☐ Laboratory monitoring of the coagulation system (PTT, INR, Fibrinogen) as applied to the cardiac patient
☐ Ability to assess the adequacy of mechanical ventilation using clinical parameters (pt size & weight, peak & plateau ventilatory pressures, mode of ventilation in conjunction with patient LOC, tidal volume, rate) and laboratory arterial blood gas analysis
☐ Recognize the parameters used to assess intraoperative blood loss, and options to treat blood loss including medical and surgical alternatives.
☐ Know the significance of temperature management in the intraoperative period, including hypothermic techniques and the importance of normothermia during beating heart procedures
☐ Appreciate the indicators of volume status especially when weaning from bypass and including the findings from invasive monitors, TEE and clinical indicators (urine volume)
☐ Utilize appropriate intraoperative blood work for the management of patient care
☐ Awareness of new monitoring devices (non invasive CO, BIS, NIRS) and potential applications during cardiac surgery

D. Clinical Assessment & Management

The resident will be able to:

☐ Complete a detailed history, physical exam, order appropriate laboratory and ancillary investigations and provide a management plan for a cardiac surgical patient
☐ Know current indications and recommendations for SBE prophylaxis
☐ Manage medical bleeding
☐ Correct common derangements in metabolic and electrolyte disturbances in the intraoperative period
☐ Know the basic principals of cardiac support devices including IABP and extracorporeal membrane oxygenation

☐ Know the common pathophysiology and management of patients with complications of:
1) Coronary artery disease, acute myocardial ischemia and infarction, complications of myocardial infarction and thrombolytic therapy
2) Valvular heart disease and valve replacement or repair
3) Aortic Dissection, Thoracic and Thoraco-Abdominal Aortic Aneurysm
4) Shock and the use of volume resuscitation, venodilators/constrictors, ionotropes and lusiotropes
5) Emergencies requiring ACLS
6) Cardiac tamponade, constrictive pericarditis
7) Dilated, restrictive and obstructive cardiomyopathy (IHSS), CHF, and diastolic dysfunction
8) Aberrant conduction, dysrhythmia, sudden acute and sub-acute ventricular and supra-ventricular arrhythmia
9) Pacemakers & the indications for and applications of the various modes of temporary pacing
10) Pneumo/hemothorax
11) Pulmonary edema, Pneumonia, CHF
12) COPD, asthma, sleep apnea in the ventilated patient
13) Heparin induced thrombocytopenia and heparin resistance
14) Neurologic risk stratification during CPB procedures
15) Renal failure and its management
16) Diabetes and endocrine control, and the implications of hyperglycemia

Communicator:
At the senior level resident will be encouraged to develop their communication skills.

Effective skills will be taught and encouraged at several levels:
- Between Resident Physician and Patient and his/her family
  - Obtaining accurate and relevant history and perform a detailed physical examination using effective listening skills
- Between Resident and the CSRU Attending
  - Communicate patient information and outline a management plan to the attending in a professional manner
- Between Resident and Critical Care Team (OR nurse, RT)
  - Communicate management plan effectively in both routine and emergency situations
- Between Resident and the Surgeon
  - Discuss the clinical parameters of the conduct of the anesthetic
  - Receptive to differing opinions on management decisions

Collaborator:
Recognize the need to utilize other specialists for the care and management of the critical patient:
- Differentiate the critical differences between medical and surgical postoperative bleeding and collaborate with the surgical specialty
- Foster healthy team relationships

Manager:
Residents are taught:
- Collaborative Care Plans and Fast-track cardiac anesthesiology and surgery in resource optimization
- To gain knowledge of the resources required to run a cardiac surgery program, and the implications of patient factors and complications on these required resources.
- Describe common physiological changes occurring in the postoperative period and the impact these have on end organ function. (neurologic,
renal, cardiac, hepatic, gastro-intestinal)

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- Acquire skills of arterial and central venous cannulation, peripheral venous cannulation, rewiring central venous access, PA catheterization; interpret CVP and data from PA catheter (PAP, PCWP, Cardiac output) and know its indications, complications and management
- Know basics of introductory TEE, including techniques of probe insertion and several basic views and its implication and application to the critical care patient
- Laboratory monitoring of the coagulation system (PTT, INR, Fibrinogen) as applied to the cardiac patient
Ability to assess the adequacy of mechanical ventilation using clinical parameters (pt size & weight, peak & plateau ventilatory pressures, mode of ventilation in conjunction with patient LOC, tidal volume, rate) and laboratory arterial blood gas analysis

Recognize the parameters used to assess intraoperative blood loss, and options to treat blood loss including medical and surgical alternatives.

Know the significance of temperature management in the intraoperative period, including hypothermic techniques and the importance of normothermia during beating heart procedures

Appreciate the indicators of volume status especially when weaning from bypass and including the findings from invasive monitors, TEE and clinical indicators (urine volume)

Utilize appropriate intraoperative bloodwork for the management of patient care

Awareness of new monitoring devices (non invasive CO, BIS, NIRS) and potential applications during cardiac surgery

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- Know the basic principals of cardiac support devices including IABP and extracorporeal membrane oxygenation
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  2) Valvular heart disease and valve replacement or repair
  3) Aortic Dissection, Thoracic and Thoraco-Abdominal Aortic Aneurysm
  4) Shock and the use of volume resuscitation, venodilators/constrictors, ionotropes and luidiotropes
  5) Emergencies requiring ACLS
  6) Cardiac tamponade, constrictive pericarditis
  7) Dilated, restrictive and obstructive cardiomyopathy (IHSS), CHF, and diastolic dysfunction
  8) Aberrant conduction, dysrhythmia, sudden acute and sub-acute ventricular and supra-ventricular arrhythmia
  9) Pacemakers & the indications for and applications of the various modes of temporary pacing
  10) Pneumo/hemothorax
  11) Pulmonary edema, Pneumonia, CHF
  12) COPD, asthma, sleep apnea in the ventilated patient
13) Heparin induced thrombocytopenia and heparin resistance
14) Neurologic risk stratification during CPB procedures
15) Renal failure and its management
16) Diabetes and endocrine control, and the implications of hyperglycemia

**Communicator:**
At the senior level resident will be encouraged to develop their communication skills.

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  - Communicate patient information and outline a management plan to the attending in a professional manner
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**Collaborator:**
Recognize the need to utilize other specialists for the care and management of the critical patient:
- Differentiate the critical differences between medical and surgical postoperative bleeding and collaborate with the surgical specialty
- Foster healthy team relationships

**Manager:**
Residents are taught:
- Collaborative Care Plans and Fast-track cardiac anesthesiology and surgery in resource optimization
- To gain knowledge of the resources required to run a cardiac surgery program, and the implications of patient factors and complications on these required resources.

**Health Advocate:**
Health Advocacy requires clinical experience at an advanced level. Senior residents will learn from staff in action in this area. Resident will learn:
- The integration of scholarly activities, especially through evidence based best practice, to guide the care of the cardiac surgical patient from pre-operative assessment, intraoperative care and postoperative management, to provide for the best possible outcomes
- The importance of the cardiac team approach, with involvement of nursing, perfusion, surgery and anesthesia to allow for consultation in patient management
To provide a consistent and standard high level of care through continuous quality review with attention focusing on errors within the cardiac care system

**Scholar:**
Residents will be encouraged to develop scholarship in several areas:
- Identify important determinants during the cardiac anesthetic that impact the health and success of the fast-track cardiac patient
- Identify areas of controversy in the management of cardiac patients using clinical observations, literature searches and seek to practice evidence based medicine using the best available evidence
- Contribute to the medical education of other health professionals (clerks, medical students, nurses, RTs etc.)
- Develop an educational pattern of self study and critical appraisal of ones own performance and knowledge
- Participate through attendance, interaction and presentation at rounds including departmental, echocardiographic and cardiac didactic teaching

**Professional:**
Residents must:
- Always demonstrate respectful, and compassionate behavior toward patients, their families and other health care providers
- Demonstrate an appropriate sense of responsibility to themselves and their patients
- Strive to maintain insight and self-assessment regarding their behavior, learning objectives and achieved goals
- Remain calm and organized in stressful, or emergency situations
- Demonstrate appropriate interactions with colleges and staff

**Evaluation**
One to one interview with the block co-ordinator at the end of the rotation. Resident feedback is used to improve teaching techniques and rotation specific objectiv
The Chronic Pain Management rotation provides the anesthesia resident with an opportunity to further develop diagnostic and therapeutic expertise in a variety of analgesic modalities to improve patients’ quality of life, including but not limited to regional anesthesia techniques. The basic goals of this one-month rotation are:

- To develop knowledge of the types of chronic pain syndromes that present to a tertiary pain clinic.
- To gain familiarity with the variety of pharmacologic, non-pharmacologic and surgical modalities available.
- To gain an understanding of the impact of chronic pain on patients’ lives and work and that of their families.

Further expertise will require additional elective rotations.

There are pain clinics in Farwaniya, Al Adan, Ibn Sina, Al-Razi and Alamiri hospitals. The vision of the Program is that the treatment and study of pain is a priority that bridges academic disciplines. Integrating the fields of acute and chronic pain in the training of anesthesiologist especially will encourage the development of new paradigms for the prevention and treatment of chronic pain.

Medical Expert / Clinical Decision-Maker:
At the completion of the chronic pain clinic rotation, the resident will be able to:

- Demonstrate knowledge of anatomy and physiology of pain pathways in the peripheral and central nervous system.
- Understand the role of psychological factors, particularly anxiety, and depression on pain perception and disability.
- Obtain a complete pain history and perform a relevant physical examination.
- Formulate a differential diagnosis, and treatment plan, which incorporates pharmacologic and non-pharmacologic modalities of treatment.
- Demonstrate knowledge of specific diagnostic / treatment modalities, (indications, contra-indications, complications and technique).
- Demonstrate knowledge of chronic pain medication: opioids, anti-inflammatories, anti-convulsants; anti-depressants.
- Demonstrate knowledge of basic interventional techniques commonly employed in chronic pain medicine including:
  - Peripheral nerve blocks
  - Sympathetic blockade for upper & lower extremity
  - Trigger point injections
  - Epidural steroid injections
Blocks for diagnosis and treatment of the facet joint syndrome
Sacroiliac joint injections
Be aware of effective use of consultation services in chronic pain management.
Demonstrate knowledge of basic legal, social, and bioethical issues encountered in chronic pain management including informed consent.

**Specific Knowledge Requirements:**
- At the completion of the chronic pain clinic rotation, the resident will be able to:
  - The resident will be able to apply knowledge gained in treatment of the following specific pain disorders.
  - Complex Regional Pain Syndrome
  - Neuropathic pain syndromes e.g. peripheral diabetic neuropathy, post-herpetic neuralgia
  - Central pain syndromes
  - Intractable anginal pain
  - Visceral pain
  - Pelvic pain
  - Headaches
  - Pain related to peripheral vascular insufficiency
  - Role of personality disorders, anxiety states, and depression
  - Compensation and disability

**Communicator:**
At the completion of the chronic pain clinic rotation, the resident will be able to:
- Establish a professional relationship with patients and families.
- Obtain and collate relevant history from patients, and families.
- Listen effectively.
- Educate patients and families about their pain condition, as well as other members of the health care team.
- Demonstrate appropriate oral and written communication skills in inpatient, outpatient and operating room environments.

**Collaborator:**
At the completion of the chronic pain clinic rotation, the resident will be able to:
- Consult effectively with other physicians and health care professionals
- Demonstrate an understanding of the respective abilities of all team members.

**Manager:**
- At the completion of the chronic pain clinic rotation, the resident will be able to:
  - Demonstrate basic knowledge of the management of an ambulatory care pain clinic.
  - Utilize information technology to optimize patient care, and life-long learning.
  - Demonstrate knowledge of the guidelines concerning controlled medication use as treatment for chronic cancer and non-cancer pain in Canada.
  - Apply principles of quality assurance to outcomes in Chronic Pain Clinic.
Health Advocate:
- At the completion of the chronic pain clinic rotation, the resident will be able to:
- Be aware of national practice guidelines for chronic pain management.
- Identify the important determinants of health affecting chronic pain patients.
- Recognize opportunities for anesthesiologists to advocate for resources for chronic pain management.

Scholar:
At the completion of the chronic pain clinic rotation, the resident will be able to:
- Critically appraise sources of information in the pain management literature.
- Be able to judge whether a research project is properly designed using critical appraisal methods.

Professional:
At the completion of the chronic pain clinic rotation, the resident will be able to:
- Deliver highest quality care with integrity, honesty and compassion.
- Exhibit appropriate personal and interpersonal professional behaviors.
- Practice medicine ethically consistent with the obligations of a physician.
- Include the patient in discussions concerning appropriate diagnostic and management procedures.
- Respect the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved.
- Establish a pattern of continuing development of personal clinical skills and knowledge through medical education.
Two months rotation in neuroanesthesia will provide the Resident with a theoretical basis and clinical experience in the anesthetic management of adults undergoing surgical treatment of diseases of the CNS and Spine. This clinical experience is supplemented by a formal series of seminars in neuroanesthesia in the core curriculum and informal lectures within the O.R. setting and Interdisciplinary Neurodiscussion Rounds.

Upon completion of the neuroanesthesia rotation, Residents should have demonstrated proficiency in caring for patients with neurologic disease in a compassionate manner. This includes the preoperative evaluation, intraoperative management, and postoperative care utilizing the most current medical/anesthetic knowledge pertinent to each case using online medical information; communicating with patients and working effectively with patient care team; demonstrating ethical practices and practice cost-effective yet quality health care. The clinical experience will provide exposure to a variety of basic and complex procedures in patients with neurologic disease, with graded independence and responsibility.

Objectives
At the completion of the neuroanesthesia rotation, the Resident should exhibit the following knowledge, skills and attitudes:

Medical Expert/Clinical Decision-Maker:
General Requirements
☐ Demonstrate diagnostic and therapeutic skills for ethical and effective patient care.
☐ Access and apply relevant information to clinical practice.
☐ Demonstrate effective referral/consultation skills
☐ Recognize limitations of expertise and summon assistance when required.
Specific Requirements
☐ Demonstrate knowledge of basic sciences as applicable to neuroanesthesia, including neuroanatomy, neurophysiology and neuropharmacology.
☐ Demonstrate knowledge of medicine with particular reference to the neurologic system.
☐ Demonstrate knowledge of basic legal matters encountered in anesthetic practice including informed consent and patient confidentiality
☐ Demonstrate Basic Understanding of the commonly performed neurosurgical procedures impact on anesthetic management.
Demonstrate clinical knowledge and skills necessary for the practice of neuroanesthesia including:
- Preoperative neuro-assessment (using Glasgow Coma Scale, Hunt-Hess Classification for SAH and basic neurological exam).
- Intraoperative support including:
  - Special Positioning (sitting, prone, park-bench, lateral and knee-chest).
- Understanding basic principles of neurophysiologic monitoring – EEG, Evoked potential (SSEP, BAEP), transcranial Doppler, cerebral oximetry, and intracranial pressure monitoring methods available.
- Specific interventions – systemic arterial hypotension/hypertension, CSF drainage, ICP management, hypothermia and precordial Doppler monitoring for air embolus.
- Management of specific perioperative complications such as seizures, cerebral ischemia, intracranial hypertension, intraoperative aneurysm rupture, air embolism, cranial nerve dysfunction and neuroendocrine disturbance (DI, SIADH).
- Postoperative management of neuro patients in PACU, ICU and the Neuro-Observation Unit.
- Demonstrate competence in all technical procedures commonly employed in neuroanesthetic practice – including airway management (basic and difficult), cardiovascular and neuro-resuscitation, invasive monitoring (arterial line, central line and LP Drain placement).
- Develop and implement a rational anesthetic plan of management for each of the following neurosurgical procedures:
  - Craniotomy for mass lesions (tumor, abscess, hematoma)
  - Cerebrovascular procedures (aneurysm, AVM, carotid vascular disease)
  - CSF shunting procedures
  - Transphenoidal surgery
  - Stereotactic procedures
  - Awake craniotomy
  - Neuroradiologic procedures (embolization, thrombolytic and MRI)
  - Spine surgery

**Communicator:**
General Requirements
- Establish a therapeutic relationship with patients and their families in the limited time available.
- Obtain and collate relevant history from patients and families.
- Listen effectively.
Specific Requirements
- Demonstrate empathy, consideration and compassion in communicating with patients and families.
- Communicate effectively with medical/surgical colleagues, nurses, and paramedical personnel regarding the anesthetic management of the patient.
- Demonstrate appropriate written communication skills through accurate, legible, and complete documentation of the anesthetic record, patient chart and in consultation.
- Ensure adequate information has been provided to the patient prior to implementing the anesthetic plan and invasive procedures.
- Residents should demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families and professional associates.

**Collaborator:**
- Demonstrate ability to function in the clinical environment using the full abilities of all team members (surgical, nursing, ICU, etc.).
- Residents will develop their anesthetic plan for their patients in consultation and in concert with surgery, nursing and ICU (if necessary) for more complicated neurosurgical patients.
- When time permits, Residents are encouraged to attend multidisciplinary Neurosciences and Epilepsy Rounds. These experiences should permit the Resident to:
  a. Understand and value the skills of other specialists and health care professionals.
  b. Understand the limits of their knowledge and skills.
  c. Be able to understand, accept and respect the opinions of others on the neuro team.
- Residents will function in the O.R. as a member of the neuro team and work in a positive, constructive manner.

**Manager:**
- Residents will demonstrate the ability to manage their operating room:
  d. Ensuring necessary equipment, monitoring, and medications are available for each case.
  b. Making preparations to deal with anticipated complications.
  c. All these activities should be conducted in an effective and efficient timely manner in order to avoid O.R. delays.
- residents will begin to adopt a leadership role in the postoperative care of their patients by anticipating and arranging for either PACU, ICU or Neuro-Observation Unit care.
- Utilize personal resources effectively in order to balance patient care, continuing education and personal activities.
- Utilize information technology to optimize patient care and life long learning.
Health Advocate:
- Residents will begin to recognize the opportunities for anesthesiologist to advocate for resources for neurosurgical patients, emerging medical techs, and new health care practices.
- Provide direction to hospital administrators regarding compliance with national/international practice guidelines and equipment for the management of neurosurgical patients.

Scholar:
- Responsible for developing, implementing and regularly re-evaluating a personal continuing education strategy.
- Required to synthesize medical/anesthetic literature and critically appraise it using the principles of evidence-based medicine.
- Contribute to the development of new knowledge through facilitation/participation in ongoing departmental research activities.
- Required to prepare in advance for the O.R. cases scheduled through additional reading, patient chart review/assessment.

Professional:
- Demonstrate a commitment to executing, professional responsibilities with integrity, honesty and compassion.
- Demonstrate appropriate personal and interpersonal professional behaviors and boundaries.
- Residents should regularly review personal and professional performance.
- Recognize limits of personal skill and knowledge by appropriately consulting other physicians when caring for the patient.
Residents in the Kuwait Board of Anesthesia Training Program will be involved in the care of Obstetrical patients throughout their residency. Initial experience will most often be obtained at Maternity Hospital, but exposure to this patient population will also be available at Hospital. Residents will participate in the care of Obstetrical patients at both sites while on call. In addition, each resident will spend at least one month in a dedicated Obstetrical Anesthesia Rotation, in most cases during the latter portion of the residency. Residents are expected to be familiar with the objectives outlined in this document and are invited to discuss any questions or concerns with their supervisors.

**Medical Expert:**

**PGY 1 – 3**

**Diagnostic and Therapeutic Skills:**

1. **Physiology / Pathophysiology of Pregnancy**
   - the resident will be able to describe the physiologic changes of normal pregnancy and their relevance to anesthetic management of the pregnant patient.
   - the resident will know relevant fetal physiology, potential fetal effects of anesthesia for labour and delivery, and basic principals of FHR monitoring.
   - the resident will be able to describe normal uteroplacental blood flow and placental drug transfer mechanisms.
   - the resident will understand pain pathways involved in labour and delivery.
   - the resident will be able to describe the pathophysiologic changes accompanying common medical complications of pregnancy including, but not limited to:
     - diabetes
     - infection – maternal, fetal
     - hypertension
     - asthma
     - coagulopathy
   - the resident will be able to describe specific obstetric complications and their anesthetic implications:
     - antenatal and postpartum hemorrhage
     - malpresentation
- placental abruption
- placenta previa, placenta accreta

- ectopic pregnancy
- preterm labour

- uterine atony
- uterine laceration / perforation
- inverted uterus
- multiple gestation
- amniotic fluid embolism

2. Anesthesia and Analgesia For The Pregnant Patient
- the resident will be familiar with the indications, contraindications, and management of anesthetic techniques for regional and general anesthesia in the parturient.
- anesthesia during pregnancy for non-obstetrical surgery
- options for analgesia during labour and delivery (pharmacologic and non-pharmacologic)
- anesthesia for “double set up” and caesarean section (elective / urgent/emergent)
- anesthesia for management of postpartum hemorrhage
- the resident will become competent in the provision of epidural analgesia for labour and delivery, and in the provision of either regional or general anesthesia for c-section.
- the resident will be able to manage complications of labour analgesia (hypotension, toxic reactions to local anesthetics, dural puncture / PDPH, inadequate block)

**PGY 4 – 5**

1. Physiology / Pathophysiology of Pregnancy
- the resident is expected to further enhance his/her knowledge of the topics listed in the PGY 1 – 3 objectives.
- the resident will be able to describe the anesthetic considerations and management of patients with uncommon medical and obstetrical conditions including:
  - valvular heart disease
  - congenital heart disease – corrected / uncorrected
  - cardiomyopathy
  - neurologic disease and pregnancy
  - endocrine disease and pregnancy
- musculoskeletal disease and pregnancy
- substance abuse
- hematologic disease and pregnancy
- hepatorenal disease and pregnancy
- morbid obesity

2. Anesthesia and Analgesia For The Pregnant Patient
- further experience / development of expertise in techniques of regional and
  general anesthesia for the pregnant patient
- epidural analgesia and anesthesia
- combined spinal - epidural
- spinal anesthesia
- general anesthesia, including management of the difficult airway
- epidural blood patch
  By completion of residency training the resident is expected to:
- demonstrate diagnostic and therapeutic skills for effective and ethical patient
  care
- access and apply relevant information to clinical practice
- demonstrate effective consultation services with respect to patient care, 
education, and legal opinions.

Communicator:
- the resident will demonstrate the ability to communicate with patients and
  their families, and other members of the health care team regarding
  anesthetic care and management plans.
- the resident will encourage the participation of patients and their families
  while obtaining informed consent for procedures.

Collaborator:
- the resident will demonstrate the ability to:
- function as a member of a team in caring for the parturient
  during the antenatal, intrapartum and postpartum periods
- understand the indications for appropriate consultation with
  other physicians or allied health care professionals.

Manager:
- the resident will demonstrate the ability to:
- utilize time and resources effectively in balancing patient care
  and associated activities
- utilize information technology to optimize patient care and
  continuing education.

Health Advocate:
- the resident will:
- recognize issues where it is appropriate to act as a patient advocate, and
  perform this role effectively.
**Scholar:**
- resident will:
- be able to critically assess the obstetrical anesthesia literature and other sources of medical information.
- attend rounds and teaching seminars as scheduled.
- contribute to the education of other individuals in the obstetrics unit (medical students / patients / other health care providers).

**Professional:**
- the resident will:
- practise in an ethically responsible and professionally appropriate manner displaying integrity, honesty, and compassion
Pediatric anesthesia rotation objectives

1. Medical Expert/Clinical Decision Maker
The resident will acquire an understanding of the anatomical, physiological, pharmacological and psychological differences between the neonate, child and adolescent in relation to anesthesia practice. He/she must demonstrate knowledge concerning:

a) The Respiratory System
   - Anatomic differences of the neonate and pediatric airway
   - Age differences in; control of respiration, compliance, lung volumes, oxygen consumption
   - Neonatal post-op apnea
b) The Cardiovascular system
   - Anatomy and physiology of transitional circulation
   - Maturation of the myocardium and autonomic nervous system
   - Normal vital signs for ages
c) The Central Nervous system
   - Anatomy differences - fontanels
   - Age differences; intracranial pressure and cerebral blood flow and auto-regulation
d) The genitourinary system
   - Renal Maturation
   - Fluid & Electrolyte, maintenance requirements, hydration assessment
e) The Gastrointestinal/Hepatic system
   - Feeding, fasting guidelines
   - Glucose control
   - Maturation of hepatic function
f) Hematological System
   - Normal values in infants and children
   - Natural history of fetal hemoglobin
   - Blood component therapy
g) Thermoregulation
   - Body surface area and heat loss
   - Differences and ability to thermoregulate
   - Heat loss & prevention
h) Psychological Issues
   - Anxiety/fear at different ages
   - Separation anxiety and parental anxiety
   - Use of premeditations
i) Pharmacology
   - Pediatric induction techniques, inhalation, intravenous, sedation
   - Ages difference in; volume of distribution, pharmacokinetics and pharmacodynamics and toxicity
j) Pain Management
   - Options of regional and neuraxial analgesia, ultrasound guidance
   - Multimodal analgesic techniques
   - Differences in performing epidural blocking in children vs adults
k) Anesthesia Equipment
   - Equipment specific to patient age, circuits ventilators
   - Sizes of masks, ETT, LMA, laryngoscopy blades, Bronchoscope, Glidescope
   - Vascular access and invasive monitoring
   - Regional Block Equipment
Warming devices
The resident will acquire the knowledge and understanding of Coexisting Disease in Pediatric patients to aid providing anesthetic care for children.

a) Full term infants, former preterm infants and healthy children and adolescents presenting for common surgical procedures. The anesthetic management of neonates and premature infants.
b) Cardiovascular Disease ASD, VSD, PDA, TOF and repaired simple lesions
   □ Cardiomyopathies □ Heart Transplant Recipients □ Complex Congenital Heart Disease e.g. Transposition of the great vessels, ductus arteriosis, single ventricle physiology, abnormal pulmonary venous return. □ Postoperative: e.g. Norwood, Bicavopulmonary Anastamosis, Fontan
   □ Obstructive lesion and Pulmonary hypertension
c) Respiratory Disease
   □ Upper Respiratory Tract Infections □ Asthma □ Cystic Fibrosis □ Obstructive sleep apnea
   □ Stridor, congenital and acquired, e.g. cystic hygroma, epiglottitis, croup, retropharyngeal abscess
d) Gastrointestinal Disease
   □ Hepatobiliary disease □ Gastroesophageal reflux □ Feeding disorders
e) Neuromuscular Disease
   □ Hydrocephalus □ Repaired spina bifida □ Cerebral Palsy □ Muscular Dystrophy □ Mytonic Dystrophy □ Seizures disorders and developmental delay
f) Infections
   □ Hepatitis, TB, HIV

g) Endocrine and Metabolic
   □ Diabetes □ Thyroid □ Obesity □ Mitochondrial Disease, Lactic Acidosis, Mycopolysccharidoses
h) Hematological/Malignancies
   □ Anemia's- Sickle cell disease, thalasemias □ Bleeding disorders - Hemophilia, Von Willebrand's □ Malignancies □ Mediastinal Masses
i) Common Syndromes
   □ Down syndrome □ Other syndrome; e.g. Pierre Robin Sequence, Crouzon's, Goldenhaar, Treacher Collins etc. □ The resident must be able to demonstrate understanding of the indications and to independently provide anesthetic care for children presenting for common surgical procedures.
   a) Pre-term infant and neonate
      □ Tracheo-esophageal fistula repair, omphalocele, gastroschisis, congenital diaphragmatic hernia
      □ Bowel obstruction, necrotizing enterocolitic, duodenal atresia, malrotation, volvulus, imperforate anus
   b) Term infant □ Hernia,
      □ Pyloromyotomy
c) General surgery
   □ Appendectomy, □ Cholecystectomy □ Thoracic surgery, thoracoscopy including the need for lung isolation
d) Otolaryngology
- Tonsillectomy and adenoidectomy, including post-tonsillectomy bleed
- Myringotomy, mastoidectomy
- Thyroidectomy typepmanoplasty
- Laryngoscopy for diagnosis and treatment, airway papillomas, epiglotitits
- Bronchoscopy, removal of foreign body from the airway
- Laryngeal/tracheal reconstruction
- Neonatal airway surgery

e) Orthopedic Surgery
- Fracture reduction
- Soft tissue surgery
- Club foot repair

- Congenital/acquired e.g. cerebral palsy
- Spinal surgery

f) Plastic Surgery
- Cleft lip/palate, isolated
- Burn debridement/skin grafting
- Craniofacial reconstruction surgery

- Tumor resection
- Raised ICP
- Myelomeningoccele repair
- Neonatal V-P insertion

h) Urology
- Circumcision, hypospadias
- Ureteric reimplantation
- Cystoscopy, nephrectomy
- Renal transplant
- V. Bladder extrophy repair

i) Ophthalmology
- Strabismus
- Cataract
- Laser for retinopathy of prematurity

j) Cardiac procedures
- Pacemaker insertion
- Cardiac catherization
- PDA ligation

k) Dental Surgery
- Dental extraction/restorations
- Orthognathic surgery

l) Remote Locations
- Radiology (MRI/CT) and angio-suit
- Cardiac catherization
- Radiation and chemotherapy

m) Perioperative/PACU Issues
- Delirium
- Post extubation stridor
- Pain
- Larygospasm
- Nausea and vomiting

n) Regional
- Perform single shot caudal blocks, ilioinguinal and dorsal penile blocks
- Neuroaxial technique, ultrasound guided Regional blocks

2. Communicator
The provision of anesthesia in the pediatric setting is unique as the health care provider must be able to communicate in an appropriate and age specific manner with the patient and their parents/legal guardians as well as other members of the health care team. The resident will;

a) Demonstrate application of knowledge of age specific psychological concerns of pediatric patients with respect to anesthesia and surgery and ability to respond to these concerns at an age appropriate level.

b) Establish a therapeutic relationship with both pediatric patients and parents emphasizing understanding, trust, empathy and confidentiality.

c) Elicit and synthesize relevant information from the patient and family and be able to assess and take into account, the impact of the child’s age, gender, ethno
cultural background, social supports, and emotional influences on illness and preoperative clinical course.

d) Discuss appropriate information with the child; family and other healthcare provider, surgeons and nursing staff to facilitate the optimal management plan for the care of the patient. This should include discussion of anesthetic procedures, options and risk, answering questions and decreasing anxiety.

e) Communicate a succinct assessment and peri-operative anesthetic management plan to Attending Staff.

f) Participation in Pediatric Anesthesia Rounds will allow the resident to continue to develop formal communication skills involved in a presentation of a topic and response to question from peers.

3. Collaborator
The successful delivery of peri-operative care requires the effective collaboration of the anesthetist, surgeons, nurses, other trainees, respiratory technicians, anesthesia adjunct personnel and aides. The resident will;

a) Effectively consult with other physicians and health care professionals and demonstrate appropriate judgment regarding the assessment of pediatric anesthetic risk.

b) Coordinate the care of pediatric patients with other members of the operating room team, especially surgeons and nurses as well as staff in the intensive care unit, ward and PACU and in off-site locations such as radiology and the cardiac catherization laboratory.

c) Demonstrate skill in managing urgent and crisis situations such as hemodynamic or respiratory instability, cardiac arrest as a team member or leader.

4. Manager
The resident will;

a) Demonstrate efficient use of time regarding, patient assessment, operating room set-up, anesthesia induction, and transfer to PACU or ICU, operating room turnover.

b) Demonstrate the ability to make judgments regarding the cost-effective use of anesthesia resources in drug and equipment options and monitoring.

c) Demonstrate awareness of the principles and priorities for patient scheduling, OR lists (elective and emergent) and ICU/PACU/ward care postoperatively.

d) Demonstrate the ability to manage assigned room with regard to maintaining the schedule or changing the schedule in response to emergencies and additional cases.

e) Demonstrate the ability to manage after hours scheduling of cases including prioritization and adapting to changes.

5. Scholar
The resident will;

a) Demonstrate development, implementation and monitoring of personal continuing education strategy. Demonstrate ability to critically appraise current anesthesia literature.
and apply new knowledge based on appropriate evidence.

b) Demonstrate effective oral presentation of case reports, journal club, or rounds with synthesis of pertinent information.

c) Demonstrate the ability to formulate questions for ongoing appraisal.

d) When assigned with medical students or other residents demonstrate effective teaching.

6. Health Advocate

The resident will:

Demonstrate knowledge and recognition of broad health and societal issues with impact on anesthetic care of the pediatric surgical patient, including, impact of severe maternal chronic disorders (maternal malnutrition, hemoglobinopathies, child abuse, maternal and adolescent drug/alcohol abuse and safety promotion: seat belts and helmet use.

Knowledge and demonstration of safe anesthesia working practices such as effective anesthesia gas scavenging and appropriate handling of narcotics.

7. Professional

The resident will:

a) Deliver anesthesia care with integrity, honesty and compassion.

b) Demonstrate the attitude, behaviours and ethical standards expected of a practitioner of anesthesia.

c) Be aware of the ethical and legal aspects of the care of the pediatric patient.

d) Show recognition of personal limits through appropriate consultation with staff, other physicians and other health professionals and show appropriate respect for those consulted.

e) Demonstrate respect for patients by including the patient and family in discussions of care management.

f) Recognize potential conflicts in patient care situation, professional relationships and value systems and demonstrate the ability to discuss and resolve differences of opinion.

g) Be able to accept constructive feedback and criticism and implement appropriate advice.
Regional Anesthesia Rotation Objectives

Medical Expert/Clinical Decision Maker

The trainee will demonstrate knowledge acquisition in the following area:

- **Anatomy** related to specific regional anesthesia (RA) technique.
  - surface landmarks
  - perineural structure
  - ultra sound anatomy
  - sensory innervation
  - motor innervation
  - components and details of brachial plexus, lumbar plexus, sacral plexus

- **Physiology** related to specific RA techniques and disease processes
  - nerve transmission/blockade
  - physiologic response to acute pain
  - the patient with chronic pain at the site of surgery

- **Pharmacology** of
  - local anesthetics
  - adjuvants (epinephrine, opioids, HCO3, etc.)
  - chronic opioid use in the patient presenting for surgery

- **Regional anesthesia equipment**
  - needles
  - peripheral nerve stimulator
  - ultrasound
  - catheters
  - stimulating catheters

- **Complications/side effects**
  - IV toxicity
  - neural injury
  - needle trauma to surrounding tissue (i.e. hematoma, pneumothorax, dural puncture)
  - unintended neural blockade (i.e phrenic nerve, epidural)
Contraindications related to specific RA techniques
- infection
- anticoagulation
- pre-existing neural injury
- increased ICP
- pulmonary disease

Various RA techniques
- IV regional anesthesia
- peripheral nerve blockade
  - single shot
  - continuous technique
  - rescue
- neuraxial blockade

Communicator
The trainee will:
- demonstrate abilities in effective communication to patients and family, other physicians and ancillary personnel via

- written word
  - charting (complete & legible)
  - consultation

- spoken word
  - anesthesia and analgesia options for various procedures
  - case presentations
  - personal discussion

- listening
  - effectively listen and assimilate information important for patient care and for personal growth

Formal presentation at rounds will also be assessed

Collaborator
The trainee will demonstrate abilities in the following areas:
- A good relationship with the perioperative team, essential to provide exemplary care to the patient, namely:
  - the anesthesiology team
  - the surgical team
  - the nursing staff of the O.R.
- contribution to any of these groups for interdisciplinary activities i.e. rounds, or research
Manager
As Manager of the block room the trainee will demonstrate an understanding of general Health patient. It will include:
☑ coordination of patient flow perioperatively
☑ appropriate patient selection
☑ appropriate timing/calling for the patient, i.e. which patient to attend to first given limited resource
☑ consideration for implementation of strategies to improve functioning of the O.R.
☑ follow-up of patients following surgery

Professional
To demonstrate appropriate behaviors and attitude towards patients, his/her family and all personnel involved in the care of that patient, the
☑ Anesthesiology team
☑ Surgical team
☑ Nursing staff

Scholar
The trainee will demonstrate an ability to:
☑ implement continuing education strategies
☑ apply the principles of critical appraisal
☑ teach other residents, medical students or other personnel
☑ contribute to knowledge in the department

Patient Advocate
The trainee will demonstrate an ability to provide appropriate information to the patient and/or their family so they can make an informed decision regarding regional anesthesia as
☑ a primary anesthetic technique
☑ a component of their intra & post-op analgesia
☑ dealing with adverse outcomes
Vascular anesthetic rotation objectives

Objectives:
The objective of vascular anesthetic residency is to allow the residence to acquire particular intellectual skills necessary to care for high risk vascular patients.

1. Medical Expert/Clinical Decision-Maker

By the end of this rotation, the Resident will be able to:

- Demonstrate knowledge of general internal medicine, anatomy, physiology and pharmacology with particular reference to the cardiovascular, respiratory, hepatic, renal and coagulation systems, blood transfusion, acid–base, fluid and electrolyte balance.
- Demonstrate knowledge of the principles and practice of anesthesia as they apply to patient support during vascular surgery.
- Demonstrate competence in BCLS, ACLS and ATLS.
- Demonstrate knowledge and competence in the following: Anatomy, physiology, and pathophysiology of the peripheral circulation.
- Vascular disease: epidemiologic, medical, and surgical aspects (pathophysiology of atherosclerosis, natural history of patients with peripheral vascular disease, medical therapy of atherosclerosis).
- Preoperative evaluation and preparation of the vascular patient: Clinical predictors of increased perioperative CVS risk, type surgery, ACC/AHA Guidelines on perioperative cardiovascular evaluation care of patients undergoing noncardiac surgery, assess and optimize coexisting disease (coronary artery disease, heart failure, cardiac valvular disease, diabetes mellitus, COPD and tobacco abuse, renal failure, cerebrovascular disease), coronary revascularization before noncardiac surgery risks vs. benefits, PTCA and stenting before noncardiac surgery. Implications and optimal timing of noncardiac surgery after PTCA and stenting.
- Pharmacological agents used in vascular patients (nitrates, -adrenergic receptor antagonists, ACE inhibitors, angiotensin II receptor antagonists, digoxin, loop and thiazide diuretics, spironolactone, calcium channel blockers, clonidine, hydralazine, insulin and oral hypoglycemic, cholesterol lowering agents, epinephrine and norepinephrine, dopamine and dobutamine, milrinone, vasopressin, heparin, low molecular weight heparin, 60 anticoagulants)
- Perioperative Renal Protection (cardiac performance and perfusion pressure, fluid management, mannitol, N-acetylcysteine, fenoldopam).
- Hematologic consideration in Vascular Surgery (normal hemostasis, laboratory
evaluation, congenital bleeding disorders, acquired bleeding disorders, platelet defects, hypercoagulable states and venous thrombosis), antithrombin III deficiency, protein C deficiency, protein S deficiency, defects in fibrinolysis, venous thrombosis, anticoagulant therapy, heparin, LMWH and heparinoids, Coumadin, platelet inhibitors, herbal therapy, thrombolytic therapy, pentoxifylline (procoagulant therapy), tranexamic acid, desmopressin (intraoperative blood loss and replacement, postoperative bleeding and reoperation)

- Monitoring during Vascular Anesthesia: Electrocardiography arrhythmias, conduction defects, myocardial ischemia. (three electrode system, modified three electrode system, five electrode system) Pulse Oximetry, Capnometry, Noninvasive Blood Pressure Monitoring, Body Temperature, Invasive Hemodynamic Monitoring, Advantages, indications, contraindications and complications of the following: arterial pressure monitoring, CVP monitoring, pulmonary artery catheterization, cardiac output, TEE.

- Abdominal Aortic Reconstruction: Etiology, Epidemiology and Pathophysiology of AAA and Aortoiliac Occlusive Disease: Natural History and Surgical Mortality: Pathophysiology of Aortic Occlusion and Reperfusion: cardiovascular changes, renal hemodynamics and renal protection, humoral and coagulation profile, visceral and mesenteric ischemia, central nervous system and spinal cord ischemia and protection.

Clamp Level: infrarenal, suprarenal, supraceliac • Anesthetic Management: Autologous blood transfusion, anesthetic drugs and techniques, thoracic epidural.

- Thoracoabdominal Aortic Aneurysm Surgery • Etiology • Preoperative Preparation and Monitoring
  - Classification of TAAA’s
  - Morbidity and Mortality
  - Neurologic Complications: anatomy and blood supply of spinal cord, artery of Adamkiewicz, cerebrovascular accidents, spinal cord infarction – paraplegia, Crawford’s classification of TAAA’s and incidence of paraplegia.
  - Spinal Cord Protection: • Renal ischemia and protection • Coagulation and metabolic management • One lung ventilation • Anesthetic management

- Endovascular Aortic Repair
  - Stent – Graft Devices and Approval
  - Patient Selection
  - Preoperative Diagnostic Imaging of Aneurysm, Surrounding Anatomy and Device Sizing
  - Endovascular Technique for EVAR and TEVAR • Anesthetic Management – Regional vs. General • Indications for CSF Drainage in TEVAR
  - Complications (damage to access vessels, endoleaks, graft migration, renal ischemia, paraplegia, stroke, aorto - esophageal fistula, conversion to open)
  - Patient Outcomes – OPEN vs. ENDOVASCULAR

- Lower Extremity Revascularization Epidemiology and Natural History of Peripheral Vascular Disease: Pathophysiology of Atherosclerosis, Medical Therapy for Atherosclerosis and Complications of Medical Therapy, Chronic Medical Problems and Risk Prediction in Peripheral Vascular disease Patients, Acute Arterial
Occlusion, Chronic Arterial Occlusion, Surgical Management, Preoperative Preparation and Monitoring, Regional versus General Anesthesia, Neuraxial Anesthesia and Agents Affecting Hemostasis, Risk of Spinal or Epidural Hematoma, Anesthetic Management, Postoperative Considerations.

- Carotid Endarterectomy, Surgical indications, Perioperative Cardiovascular Morbidity and Mortality, Preoperative Evaluation, Anesthetic Management.
- General vs. Regional vs. Local o Advantages and disadvantages of each Superficial and Deep cervical plexus block. Neurologic Monitoring and Cerebral Perfusion, Neurologic assessment of awake patient, Assessment of cerebral blood flow. Cerebral electrical activity electroencephalography ± computer processing SSEPs, Cerebral oxygenation, Jugular venous oxygen saturation, Cerebral oximetry
- Postoperative Considerations, Neurologic injury, Postoperative hyperperfusion syndrome Blood pressure liability, Cranial nerve and carotid body dysfunction, Airway and ventilation problems, Cardiac ischemia/MI.
- Mechanical ventilation and invasive monitoring in ICU Complications, including: complications of invasive monitoring, complications of surgical procedure, respiratory complications (Risk factors, Pulmonary disease, Cardiac disease, Emergency surgery) Technical Skills.
- Be proficient in the provision of thoracic epidural analgesia for upper abdominal and thoracic surgical procedures.
- Be skilled in airway management for bronchoscopy, one-lung ventilation and insertion of spinal drains and CSF monitoring for thoracic aneurysm repair.
- Be skilled in starting large bore intravenous infusions, arterial lines, CVP and PA lines in vascular surgical patients.

2. Communicator
The Resident will be able to:
- Demonstrate effective communication with patients and families of description of procedures, informed consent and anesthetic options and risks.
- Demonstrate effective communication with OR team (vascular surgeons, nurses and other members of the health care team) and postoperative team (ICU, PACU) provide clear and concise written consultation and anesthetic records.

3. Collaborator
The Resident will be able to:
Seek perioperative consultation with colleagues when required contribute effectively to other interdisciplinary team activities demonstrate ability to function in the clinical environment using the full abilities of all team members.

4. Manager
The Resident will be able to: Manage OR time by efficiently conducting the anesthetic, continuing education and personal activities utilize information technology to optimize patient care and lifelong learning.
5. **Health Advocate**  
The Resident will be able to:  
Provide patient advocacy for various perioperative issues (i.e., patient safety, analgesia, postoperative monitoring).

6. **Scholar**  
The Resident will be able to:  
Demonstrate commitment to continuing personal education be able to critically review vascular anesthesia literature and describe the principles of research relevant to this population assist in education of other members of the OR team.

7. **Professional**  
The Resident will be able to:  
- Demonstrate a sense of responsibility, integrity, honesty and compassion when caring for patients.  
- Demonstrate respect for patients and colleagues deliver highest quality care to patients practice medicine ethically consistent with the obligations of a physician respect the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved.  
- Show recognition of limits of personal skill and knowledge by appropriate consulting other physicians and paramedical personnel when caring for the patient.
Thoracic anesthesia rotation objectives

1. Medical Expert/Clinical Decision-Maker

By the end of the training in this rotation, the resident will be able to:

**General Requirements**

a) Demonstrate knowledge of general internal medicine with particular reference to the cardiovascular, respiratory, renal and coagulation systems, blood transfusion, fluid, electrolyte and acid-base balance

b) Demonstrate knowledge of the principles and practice of anesthesia as they apply to patient support during thoracic surgery.

c) Demonstrate competence in ACLS

**Specific Knowledge Requirements**

a) The resident will demonstrate knowledge and competence in the following:

Anatomy/Physiology (Thoracic cavity, Airway, Mediastinum, Pulmonary vasculature, Bronchial vessels, Lymphatic system, Work of breathing, Physiology of lung collapse, Cough reflex)

b) Preoperative evaluation of the patient undergoing thoracic surgery, including:

o History (Dyspnea, Cough, Cigarette smoking, Exercise tolerance, Risks factors for acute lung injury)

c) Preoperative alcohol abuse, Pneumonectomy, Intraoperative high ventilatory pressures and excessive amounts of fluid administration).

d) Physical examination (Respiratory pattern, Respiratory rate and pattern, Breath sounds).

e) Diagnostic studies (ECG, CXR, ABG).

f) Assessment of respiratory function (Respiratory mechanics and volumes: Spirometry, Flow-volume loops; Lung parenchymal function: Diffusing capacity for carbon monoxide; Cardiopulmonary interaction: Maximal oxygen consumption; Ventilation-Perfusion scintigraphy, Split-lung function studies).

Factors and medical conditions affecting the outcome including:

- Cardiovascular disease (Ischemia, Arrhythmia)
- Age
- Renal dysfunction
- COPD (Respiratory drive – elevated PaCO2 at rest, Nocturnal hypoxemia, Right ventricular dysfunction, Bullae, Flow limitation, Auto-peep).
- Restrictive pulmonary disease.
- Primary thoracic tumors
- Anesthetic considerations in lung cancer patients (Mass effects, Metabolic effects,
Metastases, Medications, Intrathoracic metastatic manifestations, Extrathoracic Metastatic manifestations, Extrathoracic nonmetastatic manifestations)

Preoperative preparation of the patient undergoing thoracic surgery, including:
- Premedication
- Treat bronchospasm, atelectasis, infection and pulmonary edema preoperatively
- Hydration and removal of bronchial secretions, physiotherapy, smoking cessation

Monitoring during thoracic anesthesia.
- Oxygenation (pulse oximetry, ABGs), Capnometry, invasive hemodynamic monitoring (Arterial line, CVP, PAC, TEE, Continuous spirometry)
- Positioning (Lateral position).
- Physiology of One - Lung Ventilation.
- One Lung Ventilation.
- Anesthetic Management and Techniques.
- General anesthesia, Regional anesthesia, combined epidural blockade and general anesthesia, fluid management, nitrous oxide, temperature, prevention of bronchospasm, CAD. Hypoxic Pulmonary Vasoconstriction.
- Mechanisms, effects of anesthetics, nitric oxide. Anesthetic Management for

Common Surgical Procedures
- Flexible fiberoptic bronchoscopy, rigid bronchoscopy (Apneic oxygenation, Apnea and intermittent ventilation, Sanders injection system, Mechanical ventilator, HFPPV), Mediastinoscopy, VATS, Thoracotomy.
- Anesthesia for Patients undergoing Bronchoalveolar Lavage
- Anesthetic Implications of Spontaneous Pneumothorax Anesthesia for Patients undergoing Bullectomy and Volume Reduction Pneumoplasty. Anesthesia for Patients undergoing Decortication and Pleurodesis Procedures.
- Anesthesia for Patients Undergoing Esophageal Surgery.
- Anesthesia for Patients Undergoing Laser Surgery of the Airway.
- Physics of lasers, laser surgery of the airway, intraoperative considerations, complications.
- Anesthesia for Patients Undergoing Lung Transplantation.
- Signs and symptoms, diagnostic evaluation, anesthetic implications and management (airway obstruction, vascular/cardiac compression, superior vena cava syndrome).
- Anesthesia for Patients with Thoracic Outlet Syndrome.
Anesthesia for Patients undergoing Thymectomy: Myasthenia Gravis Myasthenic Syndrome.
Anesthesia for Patients undergoing Tracheal Resection and Tracheobronchial Reconstruction.
Surgical considerations, perioperative management issues, modes of ventilation.
Anesthesia for Patients undergoing Urgent Surgery. Anesthesia for patients with massive hemoptysis, anesthesia for patients undergoing removal of foreign body from the airways, anesthesia for patients undergoing endoscopy for ingested foreign bodies.
Complications of Thoracic Surgery and their Management Strategies.
Respiratory failure and management of postoperative mechanical ventilation, atelectasis, pneumothorax, cardiac herniation, cardiac ischemia and arrhythmias, low cardiac output syndrome, hemorrhage, nerve injuries (Brachial plexus, Sciatic nerve, Peroneal nerve).
Postoperative Pain Management.
Systemic analgesia, local anesthetics/nerve blocks (Intercostal nerve blocks, Intrapleural analgesia, Thoracic paravertebral block, Epidural analgesia), shoulder pain, post- thoracotomy neuralgia and chronic incisional pain.
Technical Skills.
Be proficient in the provision of thoracic epidural analgesia for upper abdominal and thoracic surgical procedures
Be skilled in airway management for bronchoscopy, mediastinal masses and one-lung ventilation
Be skilled in starting large bore intravenous infusions, arterial lines, CVP and PA lines in thoracic surgical patients.

2. Communicator

By the end of this rotation, the resident will be able to perform the following:
Demonstrate effective communication with patients and families of description of procedures, informed consent and anesthetic options and risks.
Demonstrate effective communication with OR team (thoracic surgeons, nurses and other members of the health care team) and postoperative team (ICU, PACU).
Provide clear and concise written consultation and anesthetic records.

3. Collaborator

By the end of this rotation, the resident will be able to perform the following:
Seek perioperative consultation with colleagues when required.
Contribute effectively to other interdisciplinary team activities.
Demonstrate ability to function in the clinical environment using the full abilities of all team members.

4. Manager

By the end of this rotation, the resident will be able to perform the following:
Manage OR time by efficiently conducting the anesthetic, continuing education and
personal activities.
- Utilize information technology to optimize patient care and lifelong learning.

5. Health Advocate

By the end of this rotation, the resident will be able to perform the following:
- Provide patient advocacy for various perioperative issues (i.e., patient safety, analgesia, postoperative monitoring).

6. Scholar

By the end of this rotation, the resident will be able to perform the following:
- Demonstrate commitment to continuing personal education.
- Be able to critically review thoracic anesthesia literature and describe the principles of research relevant to this population. assist in education of other members of the OR team.

7. Professional

By the end of this rotation, the resident will be able to perform the following:
- Demonstrate a sense of responsibility, integrity, honesty and compassion when caring for patients. demonstrate respect for patients and colleagues.
- Practi ce medicine ethically consistent with the obligations of a physician.
- Respect the opinions of fellow consultants and referring physicians in the management of patient problems and be willing to provide means whereby differences of opinion can be discussed and resolved.
- Show recognition of limits of personal skill and knowledge by appropriate consulting other physicians and paramedical personnel when caring for the patient.
Consolidation Anesthesia Rotation Objectives

Medical Expert

- On completion of this rotation, the resident will be able to independently evaluate all patients for suitability for surgery and anesthesia.
- The resident will be able to describe, and apply all aspects of anesthesia for patients undergoing elective or emergency surgery, with a particular emphasis on Neuro and Cardiac surgery.
- The resident will be able to formulate a comprehensive plan for the perioperative management of patients of any ASA class undergoing a broad range of surgery.
- The resident will be capable of providing regional or general anesthesia, with minimal supervision, for patients undergoing a wide variety of operative procedures.
- The resident will demonstrate a comprehensive knowledge of the pathophysiology of diseases that may be present in patients presenting for Anesthesia.
- The resident will demonstrate the ability to assume a leadership role in an emergency situation.

Communicator

- The resident will communicate well with all members of the team involved in providing perioperative care to patients.
- The resident will be able to address patients and their families’ anxieties regarding their anesthetic, and provide salient information in appropriate language.
- The resident will be capable of providing information to their patients, allowing them to make appropriately informed decisions regarding the risks, benefits and alternatives of various anesthetic options.
- The resident will be adept at communicating anesthetic concerns with the surgeon before, during and after surgery in the patients’ best interest

Collaborator

- The resident will consult with other physicians appropriately.
- The resident will be comfortable seeking advice from senior colleagues, as well as offering opinions when canvassed.
Manager
- The resident will demonstrate the ability to efficiently run all aspects of their assigned operating room for the day.
- The resident will be able to assign responsibility to junior colleagues, and students without putting patients at risk.
- The resident will acquire administrative skills through functioning as the senior resident.
- The resident will take into account their responsibilities for the responsible use of finite healthcare resources.

Health Advocate
- The resident will be aware of the need for advocacy on the patients’ behalf.
- The resident will also have a concept of the role of anesthesia in promoting health for the population.

Scholar
- The resident will demonstrate effective teaching skills, through contributions and presentations at Rounds, seminars and tutorials. The resident will contribute to the teaching of medical students and junior residents.
- The resident will be familiar with the process of clinical research, and will strive to contribute to research within the department of anesthesia and perioperative medicine.
- The resident will have a responsible attitude to continuing medical education, and attend meetings and conferences relevant to their practice, as well as read current literature.

Professional
- The resident will demonstrate a professional attitude toward patients, team members and allied health professionals.
- The resident will possess a healthy work ethic.
- The resident will demonstrate leadership skills, and provide a role model for junior colleagues.
- The resident will demonstrate self-assessment and insight.
Airway Rotation Objectives

Medical Expert:

Airway assessment Perform concise, accurate and efficient history taking and physical examination skills concerning the airway Selection of appropriate airway investigations
Airway anatomy:

Cartilage and muscle function Innervation Landmarks for airway regional blocks Knowledge of common disease states associated with airway complications/difficulties Application of the American Society of Anesthesiologists and Canadian Airway Focus Group difficult airway algorithms Optimization of mask ventilation and direct laryngoscopy The laryngeal mask airway (LMA) and insertion techniques Knowledge of indications, contraindications, complications, assembly (where applicable), use, and care of airway adjuncts listed below:

Lighted stylet Rigid indirect fiberoptic laryngoscope (e.g. Bullard) Intubating laryngeal mask (e.g. Fastrach LMA) Fiberoptic bronchoscopes Straight and curved blades Glidescope Bonfils / retromolar laryngoscope Intubation of patients with normal and simulated difficult airways using at least two of the following techniques Eschmann introducer Lighted stylet Rigid indirect fiberoptic laryngoscope (eg. Bullard) LMA-facilitated FOB examination Fastrach insertion and intubation Straight blade laryngoscopy Glidescope / Bonfils / retromolar laryngoscope Flexible fiberoptic bronchoscope (FOB) facilitated intubation
Awake intubation
Preoperative preparation, sedation, and monitoring Topicalization technique
Superior laryngeal nerve block Cricothyroid puncture for topicalization
Acceptable dose of local anesthetic Nasal intubation (with and without adjuncts)
TIVA techniques for airway procedures Anesthetic management for laser procedures of the airway Management of tracheostomy under local anesthesia
Trans-tracheal jet ventilation theory and technique (mannequin) Cricothyroidotomy theory and techniques (mannequin) Retrograde intubation theory and techniques (mannequin) Optional competencies: inhalation induction and LMA insertion inhalation induction and endotracheal intubation

Communicator:

- Communication with patients in an understandable manner concerning procedures, consent, complications, risks and benefits
- Communication characterized by trust, respect, empathy, and confidentiality
Demonstrate clear communication skills during challenging situations such as an emergency, or when faced with cultural and language differences
Effectively communicate with OR team regarding equipment and assistance required
Provide thorough documentation on anesthetic record of peri-operative events specifically related to airway management

**Collaborator:**
Collaborate with OR team members to ensure optimal management of patients (e.g. ENT shared airway procedures)
Develop airway management plans in collaboration with the OR team

**Manager:**
Demonstrate proper care and maintenance of airway equipment
Understand the purchase planning and evaluation of new equipment purchases

**Health Advocate:**
 Appropriately inform patients with unexpected difficult airways (post-op visit, formal letter)

**Scholar:**
Use all learning aids available (textbooks, web-based resources, mannequins, simulator)
Teaching of airway management principles, techniques and decision making processes to medical students, and junior residents Participation in airway workshops as available
Critical appraisal of airway literature and equipment

**Professional:**
 Demonstrate a sense of responsibility, integrity, honesty and compassion when caring for patients Demonstrate respect for patients and colleagues
ANAESTHESIA \textit{OFF SERVICE} ROTATION OBJECTIVES

1- CARDIOLOGY
2- CRITICAL CARE MEDICINE
3- GENERAL INTERNAL MEDICINE
4- NEONATAL ICU
5- RESPIRATORY MEDICINE
Off-Service Cardiology Rotation Objectives

**Medical Expert:**
- Performs an appropriately complete and accurate cardiovascular history and physical examination
- Reaches an appropriate differential diagnosis and develops an appropriate management plan
- Makes appropriate use of lab investigations and incorporates results into management
- Knows and applies appropriately the principles of cardiovascular pharmacology and therapeutics
- Knows the pathophysiology and clinical presentations of common cardiac conditions (e.g. acute coronary syndromes including MI, congestive heart failure, arrhythmias/conduction disturbances, valvular heart disease) and manages them appropriately
- Applies knowledge and skills appropriately to the care and assessment of patients with cardiac conditions undergoing cardiac and non-cardiac surgery
- Demonstrates competence in basic ECG interpretation
- Understands the principles underlying and the clinical application and interpretation of stress testing, ambulatory electrocardiography, echocardiography, cardiac catheterization and angiography and nuclear cardiac perfusion imaging
- Understands the principles and applications of cardiac pacing
- Demonstrates satisfactory technical skills (arterial and central venous cannulation, Swan-Ganz catheter insertion, temporary pacemaker insertion, cardioversion and defibrillation)

**Communicator:**
- Establishes a therapeutic relationship with patients and their families, listens and explains
- Provides lucid, accurate organized case presentations to cardiology consultants and colleagues
- Prepares accurate, organized legible medical records (including dictated consultation letters/reports)
- Asks sensible questions when appropriate
**Collaborator:**
- Develops and maintains effective and collegial working relationships with colleagues and health care professionals
- Contributes to team effectiveness through collaborative behaviour
- Consults with other physicians and health care professionals as appropriate to assist in proper patient management

**Manager:**
- Uses available hospital resources (supplies, equipment, lab investigations etc.) efficiently and effectively with due regard for principles of cost-effectiveness
- Demonstrates effective personal time management skills and sets appropriate priorities
- Makes effective use of information technology including PowerChart and PACs

**Health Advocate:**
- Identifies individual patient determinants of cardiovascular health and ill health
- Knows and modifies as appropriate risk factors for cardiovascular and coronary disease
- Knows NYHA and CCS functional classification schemes for patients with cardiac disease

**Scholar:**
- Develops and maintains an effective ongoing learning strategy, taking appropriate initiative in self-directed learning
- Demonstrates appropriate critical appraisal skills in analyzing the cardiovascular literature
- Knows and applies the principles of evidence-based cardiovascular medicine

**Professional:**
- Demonstrates integrity, honesty, compassion and respect for others
- Applies ethical principles in recommending treatments and obtaining informed consent for diagnostic and therapeutic procedures
- Knows personal limitations, shows insight and accepts appropriate advice and criticism
- Observes appropriate personal and professional boundaries
Preamble:
Critical care medicine is a multidisciplinary field concerned with patients who have sustained, or are at risk of sustaining life-threatening, single or multiple organ system failure due to disease or injury. Critical care medicine seeks to provide for the needs of these patients through immediate and continuous observation and intervention so as to restore health and prevent complications. A specialist in adult critical care medicine is a physician, surgeon or anesthesiologist who is competent in all aspects of recognizing and managing acutely ill adult patients with single or multiple organ system failure requiring ongoing monitoring and support.

Program Organization:
Training will be primarily based on encounters with patients presenting with a variety of medical and surgical illnesses to the intensive care unit, under the supervision of intensivist. Faculty will provide teaching by role modeling, bedside teaching and provision of constructive feedback. Patient care rounds, teaching rounds and clinical conferences will supplement patient encounters.

Expectations:
Over the 1 to 3 month training period, it is expected that trainees will demonstrate ongoing development in each of the (listed below) such that the depth, sophistication, efficiency and proficiency of their performance increases with experience. Trainees completing the program should expect to achieve the key competencies described within each domain. This will be documented using a critical care specific in-training evaluation report (ITER) at the end of the training.

Evaluation:
All faculty supervisors are encouraged to discuss performance on a regular basis with the trainee. In addition, all supervisors will be asked for feedback on the trainee towards the end of their rotation and an exit interview will be scheduled with the rotation supervisor. The Critical Care Junior In-Training Evaluation Report (ITER) will be reviewed, signed, and forwarded to the offices of the Program Director, and to the trainee’s Specialty/Subspecialty Program Director.

**General Objectives:**
1. To obtain a working knowledge of critical care medicine by actively participating in the management of critically ill patients.
2. To gain an understanding of the integrative nature of disease in the critically ill patient and the interdisciplinary approach to the management of such patients.
3. To understand the pathophysiology of commonly seen diseases in critically ill patients.
4. To become familiar with the principles of hemodynamic monitoring, airway management and ventilator care.
5. To be able to identify the patient at risk, perform an appropriate physical examination, formulate a problem list and institute a course of therapy (commensurate with the resident’s of training) under the direction of senior personnel.
6. To gain proficiency in procedures commonly carried out in a critical care unit, commensurate with the level of training.
7. To become proficient in the management of a cardiac arrest and the acute resuscitation of an acutely ill patient.

**Specific Objectives:**

**Medical Expert:**
The trainee will demonstrate:

i. applied knowledge of the generalist aspects of critical care illness (*see below*).

ii. practical knowledge of specific technical skills.

iii. stabilization, assessment, investigation and collaborative management of the critically ill patient with the ability to integrate information and assist the ICU health care team in effective patient care.

The trainee will demonstrate applied knowledge of the following:

**Respiratory Dysfunction**
The ability to determine the presence of respiratory failure, provide for its emergency support, and have a plan of action to subsequently investigate and manage common problems.

**Cardiovascular Dysfunction**
The ability to recognize the problem, provide emergency life support (including ACLS), and embark upon a diagnostic and management program.

**Neurological Dysfunction**
The ability to recognize common problems in a patient with a central nervous system (CNS) crisis and/or an altered level of consciousness, institute immediate life-sustaining measures, carry out appropriate neurological examination, derive a differential diagnosis, and continue with appropriate diagnostic and supportive measures.

**Neuromuscular Dysfunction**
The ability to recognize the seriousness of the problem of a patient with an acute or chronic neuromuscular disorder, institute life-sustaining measures, and compose a program of definitive diagnosis, support, and specific therapy.

**Renal Dysfunction**
The ability to recognize the problem of a patient with oliguria or evidence of advancing or established renal failure, institute measures to preserve remaining renal function, and provide for precise diagnosis, adequate supportive measures, and appropriate therapy.

**Gastrointestinal Dysfunction**
The ability to evaluate the nature of the illness of a patient who presents with gastrointestinal crisis, institute immediate life-sustaining support, and develop a diagnostic and therapeutic plan.

**Hepatic Dysfunction**
The ability to recognize the problem of a patient with jaundice and/or manifest hepatic failure, provide for immediate life-sustaining support, and develop a diagnostic and therapeutic plan.
**Hematological/Oncologic Disorders**
The ability to recognize the problem of a patient with a malignancy, a thrombotic or thrombolytic disorder, bleeding, neutropenia, or anemia, provide for any indicated life-sustaining support, and proceed with an orderly course of investigation, management, continued monitoring, and support.

**Metabolic - Endocrine Disorders**
The ability to recognize the nature and severity of the problem of a patient with common metabolic, endocrine, or fluid/electrolyte abnormalities, establish a differential diagnosis, and embark on a course of definitive diagnosis, treatment, and continued monitoring and support.

**Septic Illness**
The ability to recognize the infective nature of the condition of a patient with catastrophic septic illness, institute immediate life-sustaining measures, establish a differential diagnosis (site of origin, etiological pathogens), and embark upon a course of definitive diagnosis, continued life support, and appropriate antimicrobial and/or surgical therapy.

**Intoxication**
The ability to formulate a differential diagnosis for a patient potentially suffering from a toxic syndrome and undertake a sequential plan to support organ function, prevent further absorption, alter distribution, and if possible, enhance elimination by natural and mechanical means.

**Nutritional Support**
The ability to evaluate the nutritional status of the critically ill patient, identify current deficiencies, ongoing losses, and extra needs induced by the illness, including the ability to devise a management strategy for the provision of either enteral and/or parenteral nutrition.

**Pharmacotherapy**
Demonstrate general knowledge of indications, risks, and side effects of relevant pharmacotherapy used in the critical care environment, including common drugs to support circulation, analgesia and sedation, and antimicrobials.

**Communicator:**
The trainee will demonstrate proficiency in:

i. obtaining a thorough and relevant medical history.

ii. the bedside presentation of patient problems.

iii. discussing diagnoses, investigations and management options.

iv. obtaining informed consent for medical procedures and treatments.
v. communication with members of the ICU health care team.
vi. communication with referring physicians and their representatives.
vii. communication with patients and their families.

Collaborator:
The trainee will:
i. demonstrate proficiency in working effectively within the ICU health care team.
ii. demonstrate appropriate use of consultative services.
iii. recognize and respect the roles of other physicians, nursing staff, physiotherapists, nutritionists, secretarial and support staff in provision of optimal patient care.

Manager:
The trainee will:
i. utilize health care resources in a scientifically, ethically and economically defensible manner.
ii. be aware of, and utilize clinical practice guidelines, especially those to prevent potential problems
iii. demonstrate effective time management to achieve balance between professional and personal responsibilities.

Health Advocate:
The trainee will:
i. recognize and respond appropriately in advocacy situations.

Scholar:
The trainee will:
i. develop and document an effective, personal learning strategy.
ii. demonstrate the ability to generate clinical questions related to patient care and utilize and analyze available resources to develop and implement evidence based solutions to such questions.
iii. demonstrate practical knowledge of the basic sciences relevant to the critically ill patient including pathology, physiology and pathophysiology, biochemistry, and pharmacology.
iv. demonstrate effective teaching skills that are adapted to the needs of the learner.

Professional:
The trainee will:
i. demonstrate integrity, honesty and compassion in delivery of the highest quality of care.
ii. demonstrate appropriate personal and interpersonal professional behaviours.
iii. develop and demonstrate the use of a framework for recognizing and dealing with ethical issues in clinical practice including truth-telling, consent, conflict of interest, resource allocation and end-of-life care.
Technical Skills:
The Junior Resident is expected to demonstrate **practical knowledge** in the technical aspects of each of the following listed below. Documented competency in each of these skills would be ideal, however, we cannot guarantee that each resident will have ‘hands-on’ exposure to all these experiences during their limited time in the ICU.
- Assessment and maintenance of the airway
- Care of patient requiring orotracheal intubation
- Care of the patient managed using conventional ventilation
- Care of the patient managed using noninvasive ventilation
- Resuscitation of the patient with undefined shock
- Central venous cannulation for resuscitation
- Resuscitation of the patient with a rhythm disturbance (drugs, cardioversion, defibrillation, & pacing)
- Care of the patient in the ICU following high risk surgery
- Arterial cannulation
- Application & maintenance of a pulmonary artery catheter
- Portable chest radiograph interpretation
- Thoracentesis & thoracostomy tube insertion
- Lumbar puncture
- Brain stem death determination & organ donor management
- Peritoneal tap
- Calculation of a nutritional plan
Off-Service Internal Medicine Rotation Objectives

Faculty and senior trainees will provide teaching by role modeling, bedside teaching and provision of constructive feedback. Didactic teaching rounds and clinical conferences will supplement patient encounters.

Over the training period, it is expected that residents will demonstrate ongoing development in roles such that the depth, sophistication, efficiency and proficiency of their performance increases with increasing seniority.

The following are the rotation specific goals and objectives for trainees. These have been formulated to guide provision of an educational experience, which will encourage and allow the trainee to develop the knowledge, skills in Internal Medicine.

**Medical Expert:**
During the rotation, the resident will demonstrate proficiency in:

i) assessment of patients presenting with undifferentiated medical complaints/problems including eliciting a relevant history, performance of the appropriate physical examination and evidence-based use of diagnostic testing.

ii) evidence-based management of common medical illnesses as well as less common but remediable conditions.

iii) effective, integrated management of multiple medical problems in patients with complex illnesses.

iv) performance of common procedures used in diagnosis and management of medical patients including ECG interpretation.

At the end of the rotation, the trainee will have

1. developed evidence-based approaches to the investigation and management strategies of peri-operative patients who have the following problems:

   - chest pain
   - dyspnea
   - cardiovascular disease
   - atherosclerosis – recognition, primary/secondary prevention
   - respiratory disease
   - renal disease
   - neurological disease
   - endocrine disorders
   - hematological disorders
   - hepatic disease
2. demonstrated proficiency in the following procedures:
- EKG interpretation
- chest x-ray interpretation
- pulmonary function interpretation
3. have an understanding of the indications, limitations and risks associated with the following procedures:
- Pulmonary function
- Exercise EKG - stress test
- holter monitors
- 2D echocardiography/Doppler
- myocardial perfusion imaging and radionuclide angiography
- cardiac catheterization/angiography
- revascularization strategies

**Communicator:**
During the rotation, the resident will demonstrate proficiency in:
i) obtaining a thorough and relevant medical history.
ii) bedside presentation of patient problems.
iii) discussion of diagnoses, investigations and management options with patients and their families.
iv) obtaining informed consent for medical procedures and treatments.
v) communication with members of the health care team.
vi) communication with referring and/or family physicians.

**Collaborator:**
During the rotation, the resident will:
i) demonstrate proficiency in working effectively within the health care team.
ii) demonstrate appropriate use of consultative services.
iii) recognize and respect the roles of other physicians, nursing staff, physiotherapists, nutritionists, pharmacists, secretarial and support staff.

**Manager:**
During the rotation, the resident will:
i) oversee provision of care and implementation of decisions regarding patient care, including effective delegation of care roles.
ii) understand the principles and practical application of health care economics and ethics of resource allocation.
iii) utilize health care resources in a scientifically, ethically and economically defensible manner.
iv) demonstrate effective time management to achieve balance between career and personal responsibilities.
Health Advocate:
On completion of the rotation, the trainee will
i) understand important determinants of health including psychosocial, economic and biologic.
ii) demonstrate the ability to adapt patient assessment and management based on health determinants.
iii) recognize situations where advocacy for patients, the profession or society are appropriate and be aware of strategies for effective advocacy at local, regional and national levels.

Scholar:
During the rotation, the resident will:
i) develop the knowledge and skills to be able to recognize and assess the extent of underlying medical disease in the peri-operative patient.
ii) develop and document an effective, long-term personal learning strategy.
iii) demonstrate the ability to generate clinical questions related to patient care and utilize and analyze available resources to develop and implement evidence-based solutions to such questions.
iv) demonstrate adequate knowledge of the basic sciences relevant to patient care including pathology, physiology and pathophysiology, biochemistry, and pharmacology.
v) demonstrate effective teaching skills adapted to learners’ needs.

By the end of the rotation, the trainee will
1. understand the physiology of:
   - normal cardiac rhythm and conduction
   - cardiovascular circulation – including maintenance and regulation of blood pressure, heart rate, and rhythm
   - respiratory function
   - renal function
2. understand the pathophysiology of:
   - atherosclerosis
   - stable/chronic angina pectoris
   - rhythm and conduction disturbances
   - congestive heart failure
   - chronic lung disease/pulmonary hypertension
   - renal dysfunction / renovascular disease
   - diabetes/other endocrine disorders
3. understand the pharmacology of:
   - antihypertensive drugs
   - beta blockers, calcium antagonists, nitrates, vasodilators, diuretics
   - angiotensin converting enzyme inhibitors/angiotensin receptor blockers
   - anti-arrhythmic agents
   - anticoagulants/anti-platelet agents
   - anti-cholesterolemic/anti-lipemic agents
- antibiotics used for surgical prophylaxis
- bronchodilators etc
- oral hypoglycemics/Insulin
3. understand the scientific evidence supporting investigation and management strategies in peri-operative patients
4. have demonstrated critical review of the literature surrounding management of patients with medical disease undergoing surgery

**Professional:**
During the rotation, the resident will:
i) demonstrate integrity, honesty and compassion in delivery of the highest quality of care.
ii) demonstrate appropriate personal and interpersonal professional behaviors.
iii) demonstrate awareness of the role and responsibilities of the profession within society.
iv) develop and demonstrate use of a framework for recognizing and dealing with ethical issues in clinical and/or research practice including truth-telling, consent, conflict of interest, resource allocation and end-of-life care
Off-Service Neonatal Intensive Care Unit Rotation Objectives

The goal of the Neonatal Intensive Care Unit (NICU) rotation for trainees in anesthesia is development of an understanding of the common neonatal illnesses, their treatment, and their implications for anesthetic management. In addition, experience in umbilical cord blood gas interpretation and neonatal resuscitation will be stressed.

**Medical Expert/Clinical Decision Maker:**

**KNOWLEDGE**

The resident will be able to:

- Identify neonates requiring resuscitation
- Describe standards for neonatal resuscitation
- Recognize common neonatal surgical emergencies, their epidemiology and presentation
- Propose appropriate perioperative and anesthetic management of common neonatal surgical emergencies
- Identify common neonatal critical care problems (e.g. temperature control, respiratory compromise, fluid and electrolyte disturbances, glucose management and circulatory problems)
- Propose appropriate management plans in both the NICU and the OR for these common neonatal critical care problems
- Recognize possible complications associated with management of underlying patient conditions

**SKILLS**

The resident will be able to:

- Complete a history and physical assessment pertinent to the neonate requiring critical care intervention
- Present a stratified differential diagnosis of the neonate’s illness
- Prescribe initial management of the neonate’s condition
- Demonstrate the ability to perform peripheral intravenous access
- Demonstrate the ability to perform umbilical artery/vein cannulation
- Demonstrate the ability to perform neonatal airway management, including suctioning, bag and mask ventilation and intubation
- Provide neonatal resuscitation as well as provide a leadership role in neonatal resuscitation by a team
- Interpret common laboratory evaluations in neonatal critical care medicine including umbilical cord blood gases, complete blood count and differential, chest x-ray, etc.
Communicator:
The resident will be able to
☐ Obtain and document the relevant medical history and physical exam thoroughly and efficiently

☐ Develop communication skills with other members of the health care team to benefit the patient
☐ Describe patient information and outline neonatal management plans to the attending neonatologist in a professional and intelligent manner
☐ Explain neonatal procedures (intubation, umbilical artery/vein cannulation, etc.) to parents or caregivers in a clear and compassionate manner

Collaborator:
The resident will be able to
☐ Be aware of the role of the neonatology consultant in peripartum management of the neonate
☐ Be aware of the role of the neonatology consultant in perioperative management of the neonate
☐ Participate in team neonatal resuscitation
☐ Describe the importance of the role of each of the members of the neonatal resuscitation team and support them in fulfilling their duties
☐ Be aware of the contribution of each team member in the team approach to patient care in the NICU
☐ Describe neonatal conditions warranting preoperative consultation with other team members (eg. anesthesiologist)
☐ Review management plans and courses of action with the neonatologist or neonatology fellow at all times

Manager:
The resident will be able to
☐ Be aware of ethical issues faced by neonatologists as they balance individual patient care requirements with limited global resources
☐ Acknowledge the difficulties and decision-making involved in utilization and allocation of finite health care resources

Health Advocate:
The resident will be able to
☐ Understand the complex emotional atmosphere surrounding delivery of a newborn and be able to act as an advocate for the family in the medical environment
☐ Provide appropriate education to ensure parents or caregivers are well informed regarding neonatal care management plans

Scholar:
The resident will be able to
☐ Teach medical students, under supervision of staff, about clinical problems
☐ Demonstrate critical enquiry of a clinical question that they have raised or that has appeared during teaching discussions

Professional:
The resident will be able to
☐ Demonstrate integrity and honesty when interacting with neonates, families, and other health care professionals
☐ Be punctual, efficient, and respectful at all times
☐ Be empathetic with families of neonates with critical illnesses

Evaluation:
☐ There will be daily direct consultant or neonatal fellow supervision of the resident with immediate ongoing feedback regarding both knowledge and skills acquisition
☐ Input from nursing and allied health professionals regarding the anesthesia resident’s performance (attitudes, interaction with staff, parents, etc.) is invited
☐ An end-of-rotation written “off-service” in-training evaluation will be completed and discussed with the resident and signed by both the resident and the preceptor
INTRODUCTION
This Endocrinology rotation is designed to allow the residents to:
a) Develop primary skills (patient assessment, use of laboratory tests, and special investigations) across a broad range of medical practice.
b) Develop a mature and effective physician-patient relationship
c) Participate in the team management of patients and when appropriate, supervise more junior members of the team (the opportunities for these are more limited in anesthesia rotations).
d) Acquire both general medical knowledge, and specialty specific knowledge necessary to function as a competent consultant in anaesthesia.

The following Rotation Specific Goal and Objectives for Endocrinology, provide specialty specific emphasis to particular components of the general Program Goals and Objectives. The resident is expected to achieve the following goals and objectives in appropriately incremental manner with increasing experience.

All appropriate Program Goals and Objectives also apply this rotation.

1. Medical Expert/ Clinical Decision Maker
The Resident will be able to:

1) Demonstrate understanding of endocrine system physiology
2) Demonstrate knowledge of the pathophysiology, diagnosis and treatment of endocrine problems including:

a) Diabetes mellitus
b) A drenal hyper and hypofunction
c) Pituitary and hypothalamic hyper and hypofunction
d) Thyroid and Parathyroid hyper and hypofunction
e) Diabetes insipidus, SIADH
f) Pheochromocytoma, Carcinoid syndrome
c) Calcium, phosphate, and magnesium homeostasis

3) Demonstrate and organized method of assessment of patients with endocrine disease and communicate a succinct evaluation and management plan to Attending Staff. This includes the indications for results, and interpretation of endocrine function tests imaging and nuclear data.
4) Discuss the indications, management principles and complications of commonly used treatment including drugs (and their pharmacology) and hormones.

5) Identify the presentation and appropriate management of potentially life-threatening Problems such as a severe hypotension with Addison’s disease, severe hypertension with pheochromocytoma, hypoglycemia with insulin excess, and diabetic ketoacidosis.

6) Identify risk factors for the per-operative development of endocrine dysfunction.

7) Discuss the assessment, management, and optimization of patients with endocrine disease presenting for surgery.

8) Demonstrate the ability to formulate and implement an appropriate plan for patient management based on understanding of the endocrine problem, coexisting problems, and patient factors such as anxiety, discomfort, culture, language, ethnicity, age, and gender.

9) Develop greater experience with, and knowledge of the medical consultation and ambulatory clinic environment.

10) When assigned with medical students or junior residents, demonstrate effective teaching and supervisory skills regarding management of endocrinology patients.

2. Communicator

The Resident will be able to:

1) Establish a therapeutic relationship with endocrinology patients emphasizing understanding, trust, empathy and confidentiality.

2) Elicit and synthesize relevant information from the patient and/or family and be able to assess and take into account, the impact of patients age, gender, ethnocultural background, social supports, and emotional influences on endocrine illness.

3) Discuss appropriate information with the patient, his/her family and other healthcare providers (endocrinologists, other physician requesting consultation, nursing staff, and other health professionals) to facilitate the optimal management plan for the care of the patient.

4) Communicate a succinct assessment and management plan to Attending Staff and to other physicians requesting consultation.

3. Collaborator
The Resident will be able to:

1) Effectively consult with other physicians and health care professional and demonstrate appropriate judgment regarding the assessment of endocrine disease

2) Coordinate the care of endocrinology patients with other members of the care team, especially endocrinologists, consultation requesting physicians, and nurses, as well as staff in the intensive care unit, and wards.

3) Demonstrate skill in managing urgent and crisis situation such as severe hypotension, severe hypertension, hypoglycemia, and diabetic keto-acidosis as a team member or leader

4. Manager

The Resident will be able to:

1) Demonstrate the ability to manage time and assignment priorities:
   a) Efficient use of time for patient assessment
   b) Changes in response to emergencies

2) Demonstrate the ability to make judgment regarding the cost-effective use of medical resources such as drug, or other therapeutic choices

5. Health Advocate

The Residents will be able to:

1) Demonstrate knowledge and recognition of broad health and societal issues with impact on the care of the patient with endocrine disease including:
   a) Risk factors and demographics which contribute to the development of endocrine disease
   b) Lifestyle changes and programs which may lead in the prevention and treatment of endocrine disease
   c) Factors that identify high-risk patients
   d) Short-term and long-term programs for health maintenance

2) Demonstrate the ability to intervene on behalf of patients regarding their care and safety

6. Scholar

The Resident will be able to:

1) Demonstrate development implementation, and monitoring of a personal continuing education strategy

2) Demonstrate ability to critically appraise current endocrinology literature, and apply new knowledge based on appropriate evidence

3) Demonstrate effective oral presentation of case reports, journal club or rounds with sound synthesis of pertinent information
4) Demonstrate ability to formulate questions for ingoing appraisal
5) Facilitate learning of patients housestaff, students and other professionals

7. Professional
The Residents will be able to:
1) Deliver highest quality care with integrity, honesty, and compassion
2) Demonstrate appropriate interpersonal and professional behavior
3) Practice medicine ethically consistent with the obligations of a physician
4) Be aware of the ethical and legal aspects of patients care
5) Show recognition of personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted
6) Demonstrate including the patient in discussion of care management
7) Recognize potential conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion. Additionally, be able to accept constructive feedback and criticism and implement appropriate advice.
INTRODUCTION
Respirology rotation is designed to allow the resident to:

a) Develop primary skills (patient assessment, use of laboratory tests, and special investigations) across a broad range of medical practice.
b) Develop a mature and effective physician–patient relationship.
c) Participate in the team management of patients and when appropriate, supervise more junior members of the team (the opportunities for these are more limited in anesthesia rotations)
d) Acquire both general medical knowledge, and specially specific knowledge necessary to function as a competent consultant in anesthesia.

The following Rotation Specific Goals and Objectives for Respirology, provide specialty specific emphasis to particular components of the general Program Goals and Objectives. The resident is expected to achieve the following goals and objectives in an appropriately incremental manner, with increasing experience.

All appropriate Program Goals and Objectives also apply to this rotation.

1. Medical Expert/Clinical Decision Maker
The Resident will be able to:
1) Demonstrate knowledge of the pathophysiology, diagnosis and treatment of the more common respiratory problems that occur in adult patients, including:
a. Reactive Airway Disease
   I. Asthma and status asthmaticus
   II. COPD
b. Restrictive lung disease
c. Pulmonary malignancy
d. Pulmonary infections
I. Bacterial and viral pneumonia
II, Tuberculosis

III. Fungal Infections
   e. Occupational lung disease
   f. Adult respiratory distress Syndrome
   g. Pulmonary hypertension and Cor Pulmonale

2) Demonstrate an organized method of assessment of patients with respiratory disease and communicate a succinct evaluation and management plan to Attending Staff. This includes the appropriate use of CXR, CT, MRI, angiographic, PFT's and Flow-Volume Loops, and nuclear data.

3) Understand the indications for and demonstrate interpretation of the common diagnostic tests (CXT, CT, MRI, angiographic, PFT’s and Flow-Volume Loops, ABG and nuclear data.

4) Participate in fiber-optic bronchoscopy for diagnosis and treatment.

5) Gain skill in topical anesthesia of the airway.

6) Discuss the assessment, management and optimization of patients presenting with respiratory disease for thoracic and non-thoracic surgery.

7) Be able to discuss the pharmacology and indications for use of commonly used drugs (e.g. antibiotics, Bronchodilators, inhaled and systemic steroids etc.)

8) Demonstrate the ability to formulate and implement an appropriate plan for patient management based on understanding of the respiratory problem, coexisting problems, and patient factors such as anxiety, discomfort, culture, language, ethnicity, age and gender.

9) Develop greater experience with and knowledge of the medical consultation and ambulatory clinical environment.

10) When assigned with medical students or junior residents, demonstrate effective teaching and supervisory skills regarding management of respirology patients.

2. Communicator
   The resident will be able to:

   1) Establish a therapeutic relationship with respiratory patient emphasizing understanding, trust, empathy and confidentiality.
2) Elicit and synthesize relevant information from the patient and/or family, and be able to assess and take into account the impact of a patient’s age, gender, ethnocultural background, social supports, and emotional influences on cardiac illness.

3) Discuss appropriate information with the patient, his/her family, and other healthcare providers (respirologists, surgeons, other physicians requesting consultation, nursing staff, and other health professionals) to facilitate the optimal management plan for the care of the patient.

4) Communicate a succinct assessment and management plan to Attending Staff and to other physicians requesting consultation.

3. Collaborator
The Resident will be able to:

1) Effectively consult with other physicians and health care professionals and demonstrate appropriate judgment regarding the assessment of respiratory disease.

2) Coordinate the care of respiratory patients with other members of the care team, especially respirologist surgeons or other consultation requesting physicians, and nurses as well as staff in the intensive care unit and words.

3) Demonstrate skill in managing urgent and crisis situations such as hypoxia or airway obstruction, as a team member or leader.

4. Manager
The Resident will be able to:

1) Demonstrate the ability to manage time and assignment priorities:
   a. Efficient use of time for patient assessment
   b. Changes in response to emergencies.

2) Demonstrate the ability to make judgments regarding the cost-effective use of medical resources such as drug or other therapeutic choices.

5. Health Advocate
The resident will be able to:
1) Demonstrate knowledge and recognition of broad health and societal issues with impact on the care of the patient with respiratory disease including:

a. Risk factors and demographics which contribute to the development of respiratory disease.
b. Lifestyle changes and programs which aid in the prevention of respiratory disease.

c. Factors that identify high-risk patients
d. Short-term and long-term programs for postoperative health maintenance.

2) Demonstrate the ability to intervene on behalf of patients regarding their care and safety.

6. Scholar
The Resident will be able to:
1) Demonstrate development implementation and monitoring of a personal continuing education strategy.
2) Demonstrate ability to critically appraise current respirology literature and apply new knowledge based on appropriate evidence.
3) Demonstrate effective oral presentation of case reports journal club or rounds with sound synthesis of pertinent information.
4) Demonstrate ability to formulate questions for ongoing appraisal.
5) Facilitate learning of patients housestaff students and other professionals.

7. Professional
The Resident will be able to:

1) Deliver highest quality care with integrity honesty and compassion.
2) Demonstrate appropriate interpersonal and professional behavior.
3) Practice medicine ethically consistent with the obligations of a physician.
4) Be aware of the ethical and legal aspects of patient care.
5) Show recognition of personal limits through appropriate consultation with staff supervisors other physicians and other health professionals and show appropriate respect for those consulted.

6) Demonstrate including the patient in discussions of care management.
7) Recognize potential conflict in patient care situations professional relationships and value systems and demonstrate the ability to discuss and resolve differences of opinion. Additionally be able to accept constructive feedback and criticism and implement appropriate advice.
KUWAIT INSTITUTE FOR MEDICAL SPECIALIZATION

Leave Policies

Introduction

The policies and procedures for leaves during Postgraduate Education is a detailed manual outlining the position of Kuwait Institute for Medical Specialization regarding resident/fellow’s leaves during postgraduate education.

The purpose of this policy and procedure manual is to:

1. Provide a guidance to the process of leaves throughout the postgraduate education programs at KIMS
2. Ensure consistent practices among postgraduate education programs at KIMS

The following outline the summary of the policy:

- Each resident/fellow registered in residency/fellowship program must follow the leave policy at the KIMS.
- The resident/fellow must ensure that he/she meets the minimal training requirement of the training and the eligibility for the examination.
- The resident/fellow and the Program Director must ensure that resident/fellow's leaves do not affect goals and objectives of the rotation.
- The resident/fellow must submit his/her leave request to the Site Coordinator/Program Director in timely fashion in the designated form.
- The Site Coordinator must ensure that resident/fellow's leaves do not interfere with clinical duties.
- The Program Director must approve all residents/fellow's leaves prior to final processing.
- The Program Director must capture all residents' /fellow's leaves and monitor days of leaves.

ALL LEAVES THAT ARE NOT APPROVED BY THE PROGRAM DIRECTOR AND THE POSTGRADUATE EDUCATION OFFICE MUST BE CONSIDERED VOID.
For further information regarding this policy and procedures please contact:

Kuwait Institute for Medical Specializations
Postgraduate Education Office
9th Floor, Behbahani Building
Tel:  
E-mail:  

1. **Section One: General Information**

Postgraduate education of the resident/fellow at KIMS is an observed process to ensure that he/she achieves targeted objectives of the rotation and overall goals in an allocated timeframe.

The goals and objectives of postgraduate education are achieved by structured rotations designed in sequence and duration in addition to other components such as academic days, workshops, etc.

KIMS has established a minimal required period of postgraduate education for its exam eligibility as delineated in the examinations policies.

1.1. **Definitions**

1.1.1. **Resident:** A physician enrolled in a postgraduate education residency program recognized by KIMS and registered at the Postgraduate Education Office of KIMS for the academic year.

1.1.2. **Fellow:** A physician enrolled in a postgraduate education fellowship program recognized by KIMS and registered at the Postgraduate Education Office of KIMS for the academic year.

1.1.3. **Academic Year:** An year of education that starts on Oct. 1 of each year and ends on the Sept. 30 of the following year.
1.1.4. **Effective Training:** The time actually spent in clinical and/or structured rotations excluding all leaves (annual leaves, sick leaves, study leaves, maternity leaves of absence, haj leaves, conference leave, etc.). It is counted as months of training.

1.1.5. **Rotation:** A period of time spent in a clinical and/or other health-related services. The rotations vary according to the discipline and the program (e.g., a 3 months rotation starts on Oct. 1 and ends on Dec. 31).

2. **Section Two: Policy and procedures on Leaves During Postgraduate Education**

2.1. **General rules:**

2.1.1. The resident/fellow’s leave must not affect the goals and objectives of the rotations and hence the following must apply:

2.1.1.1. In two-months or lesser rotation, leaves must not exceed 5 working days
2.1.1.2. In two-months to four-months rotation, leaves must not exceed 10 working days
2.1.1.3. In four months or more rotation, leaves must not exceed 30 days including weekends

2.1.2. The maximum allowed time for completion of all requirements of five-years Residency is eight years and the maximum allowed time for completion of all requirements of three-years Fellowship is five years inclusive of the approved leaves

2.1.3. 75% attendance is must for the success of a rotation

2.1.4. Leaves must not be transferred to the next academic year

2.1.5. All leaves must be approved by the Program Director/designee
2.1.6. If the total requested leaves exceed 60 days of leaves then "Leave of Absence" rules and regulations shall apply.

2.1.7. On Call Duties shall not be waived during rotations.

Leaves Categories

The following are categories of leaves within the maximum time allowed for the residency and fellowship postgraduate education programs.

2.2. Annual Leaves: 30 days of annual leaves shall be granted each academic year including the public holidays.

2.2.1. Annual leave is effective from Oct. 1st to Sept 30 of the following year.
2.2.2. Annual leave must not be transferred.
2.2.3. General Rules in section 2.1 apply.

2.3. Medical (Sick) Leave: Residents/ fellows are allowed a total of 15 days of authorized sick leave each academic year.

2.3.1. Medical leaves exceeding 15 days must not be counted towards effective training period.
2.3.2. Medical leaves exceeding 15 days per year must be approved by the General Medical Council, MOH, Kuwait.
2.3.3. For resident/ fellow granted 30 days continuous medical leaves twice (total of 60 days duration) by the General Medical Council, "leave of absence" rule and regulations shall apply.
2.3.4. General Rules in section 2.1 apply.

2.4. Professional Leaves

2.4.1. Study Leaves: A total of 14 days of study leaves shall be granted during residency/ fellowship program.

2.4.1.1. The last day of the leave shall be the last day of the exam.
2.4.1.2. The study leave shall only be granted for Kuwait Board Examinations and not other examinations.
2.4.1.3. Study leaves shall be taken as:

2.4.1.3.1. (7 days) for Part 1 examination
2.4.1.3.2. (7 days) for Final examination
2.4.1.3.3. (14 days) for Part 1 examination
2.4.1.3.4. (14 days) for Final examination

2.5. **Conference Leaves:** Each resident/ fellow is granted a 5 working days conference leaves each academic year.

2.5.1. Evidence of registration to the conference and certificate of attendance is must
2.5.2. This shall not grant a financial support or working days

2.6. **Special Leaves for residents/ fellows**

2.6.1. **Emergency leaves:** Each resident/ fellow shall be granted emergency leaves in line with MOH regulations and these must be processed as annual leaves.

2.6.2. **Grieving Leaves:** A resident/ fellow shall be granted 4 days of grieving leave upon death of husband / wife (a widow) or first degree relatives.

2.6.3. **Maternity Leaves:** A female resident/ fellow shall be granted 30 days of maternity leaves twice during residency and once during fellowship.

2.6.4. **Companion Leaves:** Each resident/ fellow shall be allowed a total of 15 days of companion to first degree relative during residency.

2.6.4.1. An authorized letter from the treating physician and head of department indicating a day of admission and discharge must be provided.
2.6.4.2. In case of travel abroad, companion approved letters from treatment abroad office must be provided.

2.7. **Special Leaves for Muslim residents/ fellows**
2.7.1. **Hajj Leaves**: A muslim resident/ fellow can be granted a **30 days** of Hajj Leaves once during residency/ fellowship.

2.7.1.1. This leave must not have been granted prior to joining the program

2.7.1.2. The resident/ fellow must be officially registered by pilgrim group, licensed by the Ministry of Awqaf and Islamic Affairs

2.7.1.3. Evidence of presence in Kingdom of Saudi Arabia during the period of Hajj as shown in resident/ fellow’s passport

2.7.1.4. Hajj Official Mission is only allowed once to a resident /fellow and shall not consume the Hajj Leaves

2.7.2. **Female widow Grieving Leave**: A married muslim female resident is entitled a grieving leave upon her husband death for **4 months and 10 days**.

2.7.2.1. Official Governmental letter is required.

2.8. **Leave of Absence**: Resident/ fellow may need to interrupt his/ her training due to various reasons. "Leave of Absence" (LOA) is a voluntary leave for a specific period of time that resident/ fellow may choose to take during residency/ fellowship due to legitimate reasons.

2.8.1. The leave must be discussed and approved by the Program Director

2.8.2. The leave must be a **minimum of 2 months** and **maximum of 12 months**

2.8.3. A resident/ fellow is allowed a **cumulative of maximum of 12 months** of LOA during residency

2.8.4. It shall be taken as a **block of rotation/s** and not mid-rotation

2.8.5. **If under special circumstances**, LOA is approved during the rotation, criteria for maximum allowed leaves during the rotation is applied to credit the successful completion of rotation
2.8.6. The Program Director must notify the KIMS Office of Postgraduate Education of the details including the first day and last day of the planned LOA.

2.8.7. The period of leave must not be considered as effective period of postgraduate education.
Forms and evaluations
Requested to Change Rotation

NAME OF RESIDENT:---------------------------------Date Submitted:--------

CURRENT ROTATION NAME:--------------------------------PERIOD:-------

REQUEST TO CHANGE TO:-----------------------------------------------

REASON(S) FOR REQUESTS:
________________________________________________________________________
________________________________________________________________________

RESIDENTS SIGNATURE:-----------------------------------------------DATE:--
________________________________________________________________________

request Granted (please circle): Approved/
Not Approved
Program Director:-----------------------------------------------Date:-------

Administrator:-----------------------------------------------Date:-------

COPY RETURNED TO RESIDENT: Date:-------------------
TEACHING EVALUATION FORM(2) ACADEMIC SEMINAR SERIE
(CORE & CURRENT TOPIC SEMINAR)

To be completed by -

On this form, you will be evaluating - PGY -

For dates: -

**MEDICAL EXPERT**

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**COMMUNICATOR**

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## Use of Current Literature

11. Use of current literature

## Critical Evaluation of Literature

12. Critical evaluation of literature

## Teaching Performance

Teaching Performance

## Professional

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## Summary

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<th></th>
<th>N/A</th>
<th>Unsatisfactory</th>
<th>Borderline</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Very Good</th>
<th>Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Overall rating of seminar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Comments:

(additional comments about the instructor should be relevant, constructive, fair and useful. (You will not be identified when they are given to the instructor.)

------------------------------------------------------------------------------------------------------------

-----------------------------------------------------------------
KAUWAT INSTITUTE OF MEDICAL SPECIALIZATION
FACULTY OF ANAESTHESIA

ANAESTHESIA GRAND ROUNDS EVALUATION FORM

Topic:---------------------------------------------------------------Date:-----------------

PRESENTER:-----------------------------------------------------------SUPERVISOR:-----------------

(Circle the appropriate responses below)

<table>
<thead>
<tr>
<th></th>
<th>Least</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. was the topic of interest to you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. was the information provided useful?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. did you receive information (e.g. bibliography) to allow independent study of this topic?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. Was the presentation well organized?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. Was the speaker understandable?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. Were the audio-visual aids helpful and appropriate?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. Did the speaker budget time appropriately?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. Were questions answered appropriately?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. Will you change your practice based on these rounds?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Overall rating?</td>
<td>Requires Attention</td>
<td>Effective</td>
<td>Very Effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Comments:--------------------------------------------------------------------------------------------------------------------

EVALUATOR:---------------------------------------------------------------(Print Name)---------------------------------------------------------------

(Print Signature)
KUWAIT INSTITUTE OF MEDICAL SPECIALIZATION
FACULTY OF ANAESTHESIA

ROTATION EVALUATION RESIDENTS

Name of Resident: ------------------------------- Academic Year: ------
Rotation: -------------------------- Level of Training: ------------- Period: -------------
(Please circle the appropriate responses below).

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Clinical exposure was appropriate. 2. Level of responsibility and supervision were appropriate.
3. Clinical teaching was valuable.
4. Service/Education ratio was appropriate.
5. Evaluation and feedback regarding my performance was:
   a) Appropriate. 1
   b) Timely. 1
   c) Based. 1
6. Regarding clinical workload:
   a) Daytime workload was appropriate. 1
   b) On call workload was appropriate.
7. Regarding my learning and teaching:
   a) Organized sessions were scheduled. NO YES
   b) I was able to attend Anaesthesia 1/2 day academic NO YES
   c) I made a formal presentation. NO YES
d) I received goals and objectives (G+O) for
e) I had the opportunity to teach co-residents or student.

<table>
<thead>
<tr>
<th>Very</th>
<th>Attention</th>
<th>Effective</th>
<th>Requires Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Overall rating for this rotation.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Comments or suggestions to improve this rotation: (Explain any values less than 4)

(Continue other side as needed)
**KUWAIT INSTITUTE OF MEDICAL SPECIALIZATION**

**FACULTY OF ANAESTHESIA**

**ANAESTHESIA ROTATION SUMMARY**

<table>
<thead>
<tr>
<th>Location: -----------------------------------------</th>
<th>Date: -----------------------------------------</th>
<th>Training Level: ------</th>
</tr>
</thead>
</table>

**Objectives:**

<table>
<thead>
<tr>
<th>Were your objectives for this rotation met?</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Was the duration of the rotation appropriate?</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Practical Aspects:**

<table>
<thead>
<tr>
<th>Adequate supervision in patient care</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Daily patient volume adequate</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>On-call patient volume adequate</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Given appropriate responsibility for level of training</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Adequate & Appropriate Exposure To:**

<table>
<thead>
<tr>
<th>Regional Anaesthesia</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Healthy ASA &amp; II patients</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seriously ill patients-ASA IV &amp; V</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Central and arterial lines</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difficult intubations</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subspecialty Anaesthesia cases (specify------)</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perioperative patient assessment consults</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pain management</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambulatory care</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Resources & Academic Aspects:**

<table>
<thead>
<tr>
<th>Accessible/appropriate/current reference material/library</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Able to attend formal didactic lectures/seminars</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating room teaching (one-on-one) satisfactory</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Did you participate in a research project during this rotation?</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Resident Evaluation :**

<table>
<thead>
<tr>
<th>Was there formal in-training evaluation at the end of rotation?</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Was the evaluation discussed with you?</th>
<th>Circle Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Overall Assessment of this Rotation (Circle One)?**

- Unsatisfactory
- Borderline
- Good
- Very Good

**What were the strengths of this rotation ?**

**Do you have suggestions for improvement of this rotation?**

**Signature (Optional):------------------------------------ Date:-----------------------------------------
1. Residents may appeal individual program component evaluations, rotation evaluations (ITERS), or Final In-Training Evaluation through the site or rotation coordinator, or through the program Director.

2. Resident may bring concerns forward to either the Program Director or the Education Committee through the Chief Resident.

At the levels delineated above ((items 1-2)), the appeal may be made verbally or in writing.

3. If the Resident wishes to pursue subsequent appeals, these can be made in writing to Faculty of Anaesthesia directly to the chairmen of faculty.

---

Abdulrahman Alrefai, MD, FRCPC
Postgraduate Program Director
Faculty of Anaesthesia

Date:
# Kuwait Institute for Medical Specializations

## Trainee Evaluation Form

<table>
<thead>
<tr>
<th>Program</th>
<th>Rotation</th>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Name</td>
<td>Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trainee Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year of Training</td>
<td>PGY1</td>
<td>PGY2</td>
<td>PGY3</td>
</tr>
</tbody>
</table>


### Medical Expert
- Basic science knowledge
- Clinical knowledge
- Data gathering (History and physical examination)
- Choice and use of ancillary tests (e.g., Lab. Tests)
- Soundness of judgment and clinical decision
- Performance under emergency conditions
- Self-assessment ability [Insight]

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### Communicator
- Establishes therapeutic relationship with patients/families
- Delivers understandable information to patients/families
- Maintains professional relationship with other health care providers
- Provides effective counseling to patients/families
- Provides clear and complete records and reports

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### Collaborator
- Demonstrates ability to accept, and respects opinions of others
- Work effectively in a team environment
- Consults effectively with other physician and healthcare providers

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### Manager
- Manages time effectively
- Allocates health care resources effectively
- Works effectively in a health care organization
- Utilizes information technology effectively
- Practices evidence-based medicine

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### Health Advocate
- Is attentive to preventive measures
- Is attentive to issue of public health
- Advocates on behalf of patients
- Involve patients/families in decision making

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### Scholar
- Attends and contribute to rounds, seminars and learning events
- Accepts and acts on constructive feedback
- Takes an evidence-based approach to the management of problems
- Contributes to the education of other trainees, and health care professionals

<table>
<thead>
<tr>
<th></th>
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<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### Professional
- Recognizes limitations and seeks advice when needed
- Discharges duties and assignments responsibly and in timely manner
- Maintains appropriate boundaries in work and learning situations
- Attend duties and report to work regularly [Punctuality]

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
</tr>
</thead>
</table>

### OVERALL COMPETENCE

Trainee Evaluation Forms/Quality

Oct. 2013

119
Trainee Evaluation Form

Additional Comments:

I certify that I have read all parts of this evaluation report and have discussed it with my supervisor.

Name/Signature of Trainee
Date:

Name/Signature of supervisor
Date:

Note: Please send completed and signed form to the program director.
Kuwait Institute for Medical Specializations
Tutor Evaluation Form

<table>
<thead>
<tr>
<th>Program</th>
<th></th>
<th>Site</th>
<th>Rotation</th>
<th>Tutor Name</th>
</tr>
</thead>
</table>

**Scholar**
- Show enthusiasm about teaching and enjoy interacting with resident
- Conduct discussion that are interesting and stimulating and include topics that are important and relevant to resident
- Teach approaches to problems and basic principles
- Facilitate discussions in clear, organized, focused fashion and involved resident
- Provide constructive feedback and criticism in supportive way
- Provide good supervision, allowing resident to take responsibility but willing to help when necessary and appropriate
- Teach critical appraisal and evidence based medicine

**Medical Expert**
- Provide teaching that is clinically oriented, accurate, in-depth and up-to-date
- Role model with good knowledge and good clinical and problem solving skills

**Communicator**
- Provide feedback to learners about their interactions with patient, families and colleagues
- Teach communication skills by demonstrating good inter-personal skills

**Collaborator**
- Role model working collaboratively with other health care professionals

**Manager**
- Provide support for team, and help work run smoothly and efficiently
- Include quality assurance / quality improvement and patient safety issues in teaching

**Advocate**
- In discussion, identify advocacy issues, such as health risks, disease prevention, and public health issues

**Professional**
- Include ethical issues and professionalism in teaching
- Is accessible and available, spends appropriate time with resident

Additional Comments:

---

**Note:** Please send the completed form to the Office of Accreditation and Quality Affairs (KIMS – 9th floor)

Oct. 2013